used_car_prediction_model

July 10, 2023

```python
# For the prupose of the assignment i will remove annoying warning
import warnings
warnings.filterwarnings('ignore')
```

1 Second Hand Card Price Predictor

When looking for a second hand car it's common to know how old the care is, how many kilometers it has, the brand of the car and some cases people would look at the type of fuel, whether it's manual or shift and small details. For this assigment, I will build a model to prediuct the price of second hand cars. I will do this utilizing deep learning algorithms.

Resources will be linked and where I got the data will be included. Tutorial used: https://thinkingneuron.com/using-artificial-neural-networks-for-regression-in-python/ Plus countless, stackoverflows, youtube, and my favorite Medium articles.

1.0.1 Exploratory Data Analysis

In this phase, I will perform a basic exploratory data analysis to figure out what the data looks like, and to find anything interesting then prepare the data for modelling phase

```python
# Reading the dataset
import pandas as pd
import numpy as np

from sklearn.metrics import mean_absolute_error
import matplotlib.pyplot as plt
%matplotlib inline
```

```python
dataset = pd.read_csv('CarPricesData.csv')
```

Data description The business meaning of each column in the data is as below

Price: The Price of the car in dollars

Age: The age of the car in months

KM: How many KMS did the car was used

FuelType: Petrol/Diesel/CNG car

HP: Horse power of the car

1

MetColor: Whether car has metallic color or not

Automatic: Whether car has automatic transmission or not

CC: The engine size of the car

Doors: The number of doors in the car

Weight: The weight of the car

There are four commands which are commonly used data exploration

head() + tail() : This helps to see a few sample rows of the data info() : This provides the summarized information of the data describe() : This provides the descriptive statistical details of the data nunique(): This helps us to identify if a column is categorical or continuous

```
[ ]: dataset.head(10)
```

```
[ ]:     Price   Age     KM FuelType   HP  MetColor  Automatic      CC  Doors  \
    0   13500  23.0  46986   Diesel   90         1          0  2000.0      3
    1   13750  23.0  72937   Diesel   90         1          0  2000.0      3
    2   13950  24.0  41711   Diesel   90         1          0  2000.0      3
    3   14950  26.0  48000   Diesel   90         0          0  2000.0      3
    4   13750  30.0  38500   Diesel   90         0          0  2000.0      3
    5   12950  32.0  61000   Diesel   90         0          0  2000.0      3
    6   16900  27.0  94612   Diesel   90         1          0  2000.0      3
    7   18600  30.0  75889   Diesel   90         1          0  2000.0      3
    8   21500  27.0  19700   Petrol  192         0          0  1800.0      3
    9   12950  23.0  71138   Diesel   69         0          0  1900.0      3

        Weight
    0   1165.0
    1   1165.0
    2   1165.0
    3   1165.0
    4   1170.0
    5   1170.0
    6   1245.0
    7   1245.0
    8   1185.0
    9   1105.0
```

```
[ ]: dataset.tail(10)
```

```
[ ]:       Price   Age     KM FuelType   HP  MetColor  Automatic      CC  Doors  \
    1426   9950  78.0  30964   Petrol  110         0          1  1600.0      3
    1427   8950  71.0  29000   Petrol   86         1          1  1300.0      3
    1428   8450  72.0  26000   Petrol   86         0          0  1300.0      3
    1429   8950  78.0  24000   Petrol   86         1          1  1300.0      5
    1430   8450  80.0  23000   Petrol   86         0          0  1300.0      3
```

```
1431   7500  69.0  20544    Petrol   86           1            0  1300.0        3
1432  10845  72.0  19000    Petrol   86           0            0  1300.0        3
1433   8500  71.0  17016    Petrol   86           0            0  1300.0        3
1434   7250  70.0  16916    Petrol   86           1            0  1300.0        3
1435   6950  76.0      1    Petrol  110           0            0  1600.0        5

      Weight
1426  1080.0
1427  1045.0
1428  1015.0
1429  1065.0
1430  1015.0
1431  1025.0
1432  1015.0
1433  1015.0
1434  1015.0
1435  1114.0
```

[ ]: `dataset.info()`

```
<class 'pandas.core.frame.DataFrame'>
RangeIndex: 1436 entries, 0 to 1435
Data columns (total 10 columns):
 #   Column     Non-Null Count  Dtype
---  ------     --------------  -----
 0   Price      1436 non-null   int64
 1   Age        1434 non-null   float64
 2   KM         1436 non-null   int64
 3   FuelType   1432 non-null   object
 4   HP         1436 non-null   int64
 5   MetColor   1436 non-null   int64
 6   Automatic  1436 non-null   int64
 7   CC         1434 non-null   float64
 8   Doors      1436 non-null   int64
 9   Weight     1434 non-null   float64
dtypes: float64(3), int64(6), object(1)
memory usage: 112.3+ KB
```

We can see there is 1436 rows, thats not a lot of data. Actually too lil bit in my opinion. But we can also see we have missing data in some columns, and we have 3 data types: integer, float and object.

[ ]: `dataset.describe(include='all')`

[ ]:
```
                  Price          Age           KM FuelType           HP  \
count       1436.000000  1434.000000  1436.000000     1432  1436.000000
unique              NaN          NaN          NaN        3          NaN
top                 NaN          NaN          NaN   Petrol          NaN
```

3

```
freq              NaN           NaN           NaN          1260           NaN
mean      10730.824513     55.986750  68533.259749          NaN    101.502089
std        3626.964585     18.581796  37506.448872          NaN     14.981080
min        4350.000000      1.000000      1.000000          NaN     69.000000
25%        8450.000000     44.000000  43000.000000          NaN     90.000000
50%        9900.000000     61.000000  63389.500000          NaN    110.000000
75%       11950.000000     70.000000  87020.750000          NaN    110.000000
max       32500.000000     80.000000 243000.000000          NaN    192.000000

                 MetColor     Automatic            CC         Doors        Weight
count         1436.000000   1436.000000   1434.000000   1436.000000   1434.000000
unique                NaN           NaN           NaN           NaN           NaN
top                   NaN           NaN           NaN           NaN           NaN
freq                  NaN           NaN           NaN           NaN           NaN
mean             0.674791      0.055710   1566.990934      4.033426   1072.487448
std              0.468616      0.229441    187.178221      0.952677     52.672475
min              0.000000      0.000000   1300.000000      2.000000   1000.000000
25%              0.000000      0.000000   1400.000000      3.000000   1040.000000
50%              1.000000      0.000000   1600.000000      4.000000   1070.000000
75%              1.000000      0.000000   1600.000000      5.000000   1085.000000
max              1.000000      1.000000   2000.000000      5.000000   1615.000000
```

```python
# Unique data values
dataset.nunique()
```

```
Price        236
Age           77
KM          1263
FuelType       3
HP            12
MetColor       2
Automatic      2
CC            12
Doors          4
Weight        59
dtype: int64
```

Bar Charts Interpretation   These bar charts represent the frequencies of each category in the Y-axis and the category names in the X-axis.

Since we want to predict the price of second hand cars, we can conclude that price is the most important variable here, the target variable. Let's dig deeper into the dataset by looking at the distribution of some columns and of price.

Price: Continuous. (Target Variable)
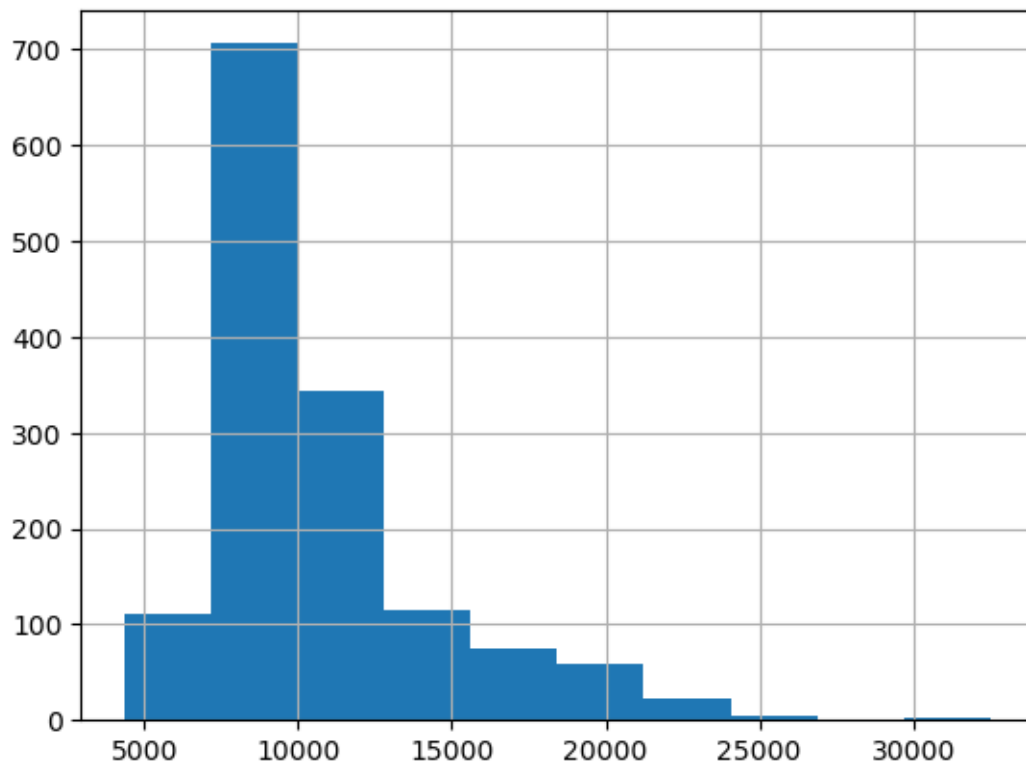
Age: Continuous.

KM: Continuous.

FuelType: Categorical.

HP: Categorical.

MetColor: Categorical.

Automatic: Categorical.

CC: Categorical.

Doors: Categorical.

Weight: Continuous.

Below is distribution of the price

```
# Creating Bar chart as the Target variable is Continuous
%matplotlib inline
dataset['Price'].hist()
```

[ ]: <AxesSubplot:>

Based on the basic data analysis above, there are six categorical predictors in the data.

Categorical Predictors: 'FuelType', 'HP', 'MetColor', 'Automatic', 'CC', 'Doors'

```
[ ]: # Plotting multiple bar charts at once
     def BarChartsPlotter(inputData, columnsToPlot):
         # Generating multiple subplots
         fig, subPlot = plt.subplots(nrows = 1, ncols = len(columnsToPlot), figsize␣
      ↪= (25,5))
         fig.suptitle('Bar charts of: '+ str(columnsToPlot))

         for colName, plotNumber in zip(columnsToPlot, range(len(columnsToPlot))):
             inputData.groupby(colName).size().plot(kind = 'bar',ax =␣
      ↪subPlot[plotNumber])
```
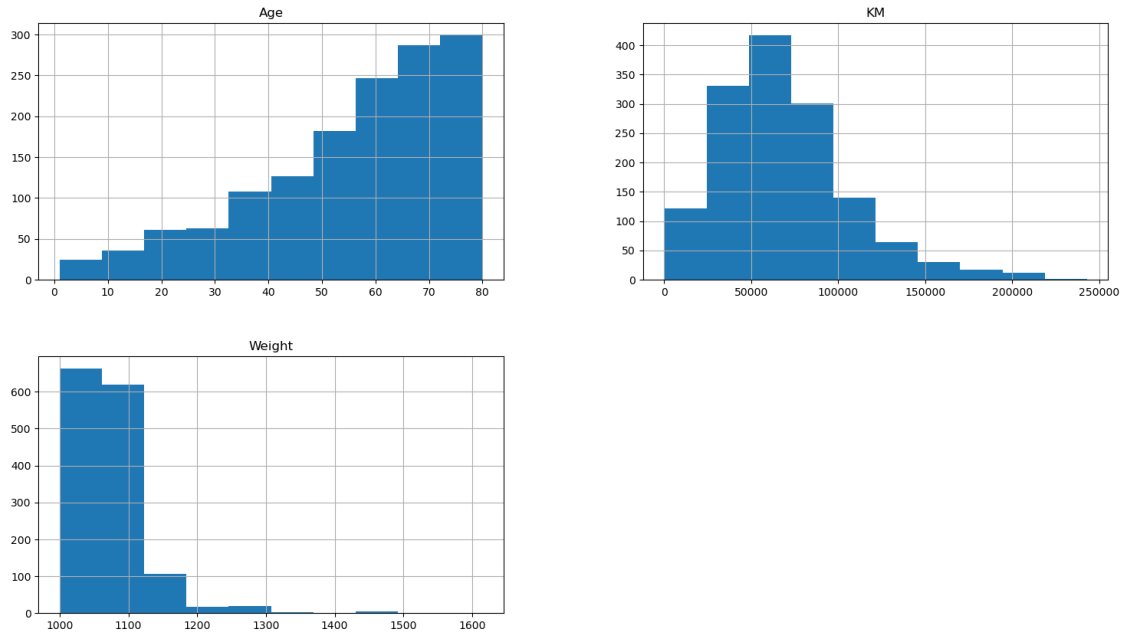
```
[ ]: BarChartsPlotter(inputData = dataset, columnsToPlot=['FuelType', 'HP',␣
     ↪'MetColor', 'Automatic', 'CC', 'Doors'])
```
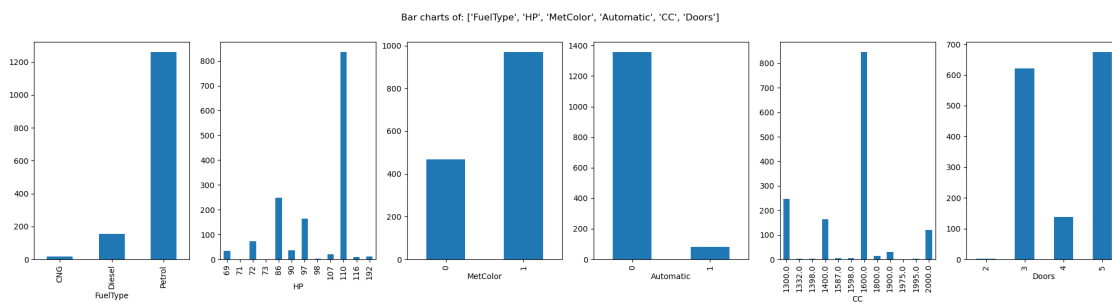

Histogram Interpretation   Based on the data analysis there are 3 continuous predictor variables: 'Age', 'KM', and 'Weight'.

```
[ ]: # Plotting histograms of multiple columns together
     dataset.hist(['Age','KM','Weight'], figsize=(18,10))
```

```
[ ]: array([[<AxesSubplot:title={'center':'Age'}>,
             <AxesSubplot:title={'center':'KM'}>],
             [<AxesSubplot:title={'center':'Weight'}>, <AxesSubplot:>]],
             dtype=object)
```

Histograms shows us the data distribution for a single continuous variable.

The X-axis shows the range of values and Y-axis represent the number of values in that range. For example, in the above histogram of "Age", there are around 300 rows in data that has a value between 70 to 80.

Selected Continuous Variables:

Age, KM, Weight.

Lets look for missing values and treat them if they are missing

```
[ ]: # so yes they are missing values
     dataset.isnull().values.any()
```

```
[ ]: True
```

```
[ ]: dataset.isnull().sum().sum()
```

```
[ ]: 10
```

The columns fuel type, age, cc (engine size), and weight has missing values.

```
[ ]: # Finding how many missing values are there for each column
     dataset.isnull().sum()
```

```
[ ]: Price        0
     Age          2
     KM           0
```

```
FuelType      4
HP            0
MetColor      0
Automatic     0
CC            2
Doors         0
Weight        2
dtype: int64
```

```python
[ ]: # Treating missing values of categorical variable with MODE value
     dataset['FuelType'].fillna(value=dataset['FuelType'].mode()[0], inplace=True)
     dataset['CC'].fillna(value=dataset['CC'].mode()[0], inplace=True)
```

```python
[ ]: # Treating missing values of continuous variable with Median value
     dataset['Weight'].fillna(value=dataset['Weight'].median(), inplace=True)
     dataset['Age'].fillna(value=dataset['Age'].median(), inplace=True)
```

```python
[ ]: # Checking missing values again after the treatment
     dataset.isnull().sum()
```

```
[ ]: Price         0
     Age           0
     KM            0
     FuelType      0
     HP            0
     MetColor      0
     Automatic     0
     CC            0
     Doors         0
     Weight        0
     dtype: int64
```

```python
[ ]: df = dataset
     df.head()
```

```
[ ]:    Price   Age     KM FuelType  HP  MetColor  Automatic      CC  Doors  Weight
     0  13500  23.0  46986   Diesel  90         1          0  2000.0      3  1165.0
     1  13750  23.0  72937   Diesel  90         1          0  2000.0      3  1165.0
     2  13950  24.0  41711   Diesel  90         1          0  2000.0      3  1165.0
     3  14950  26.0  48000   Diesel  90         0          0  2000.0      3  1165.0
     4  13750  30.0  38500   Diesel  90         0          0  2000.0      3  1170.0
```

```python
[ ]: df.shape
```

```
[ ]: (1436, 10)
```

1.0.2 Feature Selection Methods

https://towardsdatascience.com/feature-selection-correlation-and-p-value-da8921bfb3cf   https://www.sciencedirect.com/topics/computer-science/pearson-correlation#:~:text=The%20Pearson%20correlation%20measures%20the,meaning%20a%20total%20positive%20co

Now we will choose the best columns(Features) which are correlated to the Target variable. This can be done directly by measuring the correlation values.

Visual exploration of relationship between variables   Continuous Vs Continuous —- Scatter Plot

Categorical Vs Continuous—- Box Plot

Categorical Vs Categorical—- Grouped Bar Plots

Statistical measurement of relationship strength between variables   Continuous Vs Continuous —- Correlation matrix

Categorical Vs Continuous—- ANOVA test

Categorical Vs Categorical— Chi-Square test

In this case study the Target variable is Continuous, hence below two scenarios will be present Continuous Target Variable Vs Continuous Predictor Continuous Target Variable Vs Categorical Predictor

Relationship exploration: Continuous Vs Continuous – Scatter Charts   When the Target variable is continuous and the predictor is also continuous, we can visualize the relationship between the two variables using scatter plot and measure the strength of relation using pearson's correlation value.

Scatter charts interpretation

```python
ContinuousColumns=['Age','KM','Weight']

# Plotting scatter chart for each predictor vs the target variable
for predictor in ContinuousColumns:
    df.plot.scatter(x = predictor, y = 'Price', figsize = (10,5), title =
    ↪predictor+" VS "+ 'Price')
```

Age VS Price

KM VS Price

Weight VS Price
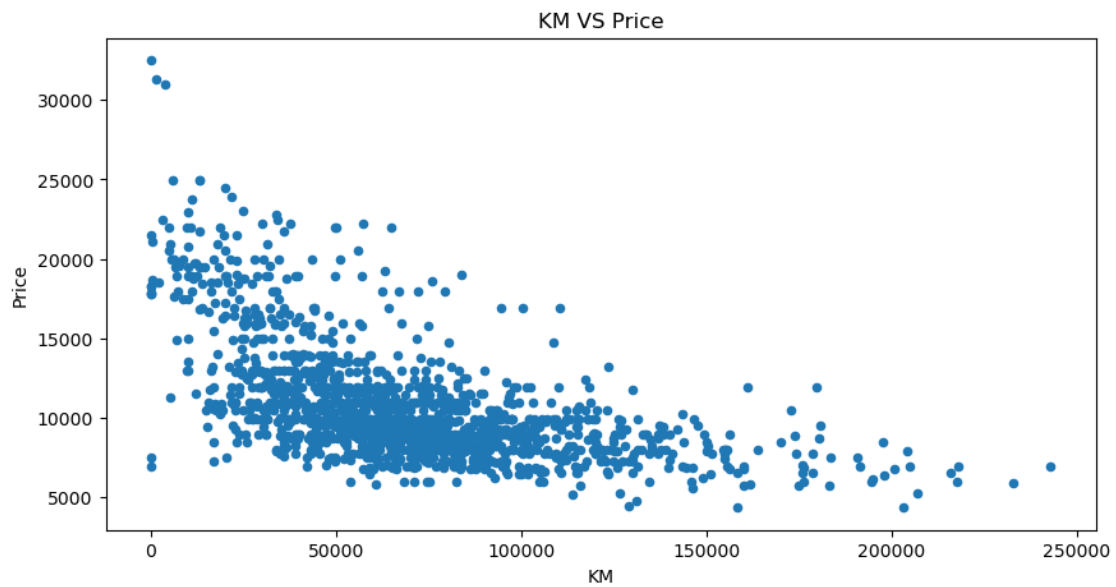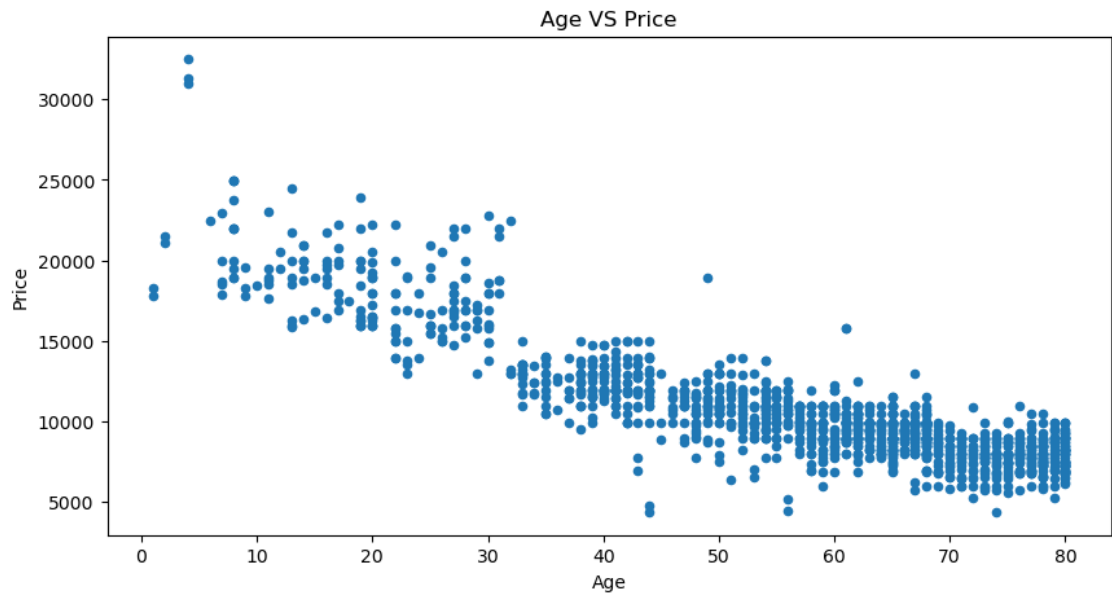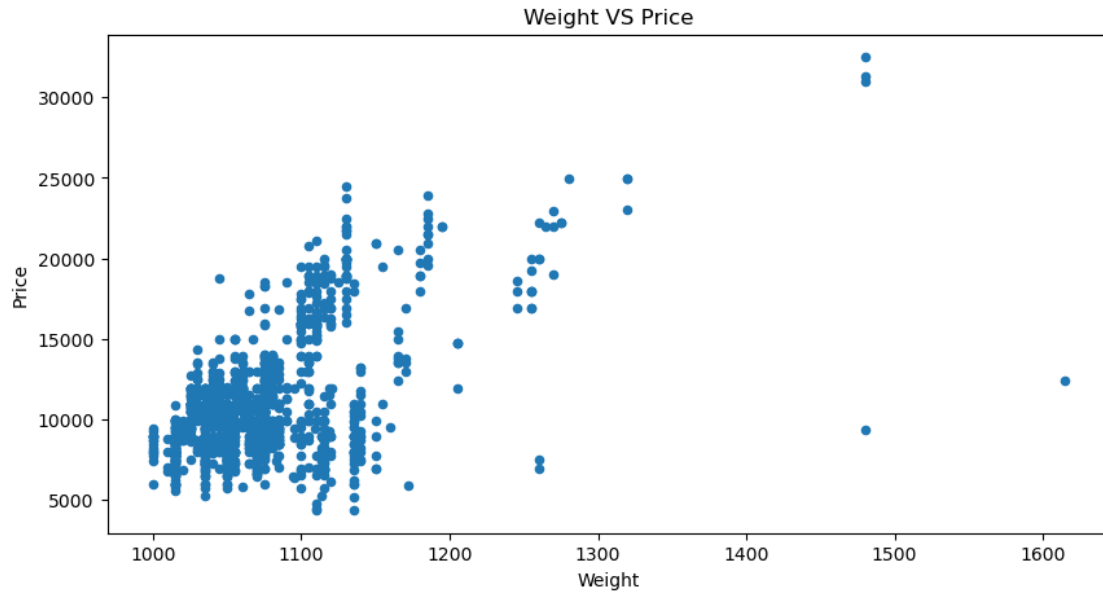
What should you look for in these scatter charts?

Trend. You should try to see if there is a visible trend or not. There could be three scenarios

Increasing Trend: They are directly proportional to each other, if one value increases, other also increases.

Decreasing Trend: They are inversely proportional to each other, if one value increases, other decreases.

No Trend: This means there is no correlation between the variables.

We can see that they are some outliers in the weight x price scatter plot

Relationship exploration: Categorical Vs Continuous – Box Plots When the target variable is Continuous and the predictor variable is Categorical we analyze the relation using Boxplots and measure the strength of relation using Anova test

```python
# Box plots for Categorical Target Variable "Price" and continuous predictors
CategoricalColsList=['FuelType', 'HP', 'MetColor', 'Automatic', 'CC', 'Doors']

import matplotlib.pyplot as plt
fig, PlotCanvas=plt.subplots(nrows=1, ncols=6, figsize=(24,5))

# Creating box plots for each continuous predictor against the Target Variable
 "Price"
for PredictorCol , i in zip(CategoricalColsList,
 range(len(CategoricalColsList))):
    df.boxplot(column='Price', by=PredictorCol, figsize=(5,5), vert=False,
 ax=PlotCanvas[i])
```
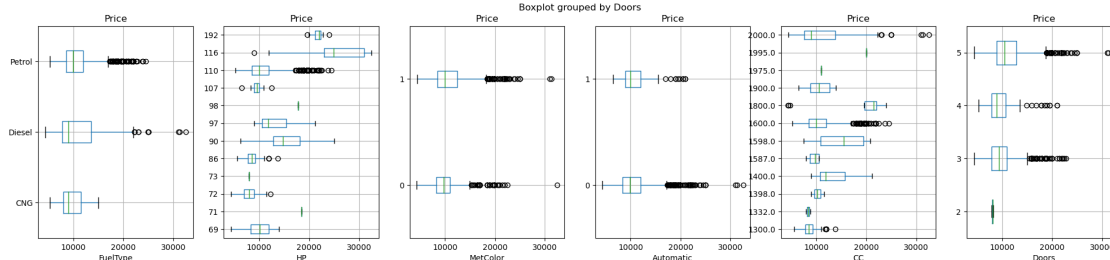
What should you look for in these box plots?

If the distribution looks similar for each category(Boxes are in the same line), that means the the continuous variable has NO effect on the target variable. Hence, the variables are not correlated to each other.

On the other hand if the distribution is different for each category(the boxes are not in same line!). It hints that these variables might be correlated with Price.

In this data, all the categorical predictors looks correlated with the Target variable except "Fuel-type","MetColor", "Automatic" and possibly "Doors" they seems like a border cases, as the boxes are close to each other.

Lets look at the ANOVA test below to confirm my thoughts

Statistical Feature Selection (Categorical Vs Continuous) using ANOVA test   Analysis of variance(ANOVA) is performed to check if there is any relationship between the given continuous and categorical variable

https://machinelearningmastery.com/feature-selection-with-numerical-input-data/

https://www.analyticsvidhya.com/blog/2021/06/feature-selection-using-statistical-tests/

https://analyticalsciencejournals.onlinelibrary.wiley.com/doi/full/10.1002/cem.3019#:~:text=ANOVA%20tables%

```
[ ]: # Defining a function to find the statistical relationship with all the
     ↪categorical variables
     def FunctionAnova(inputData, TargetVariable, CategoricalPredictorList):
         from scipy.stats import f_oneway

         # Creating an empty list of final selected predictors
         SelectedPredictors=[]

         print('##### ANOVA Results ##### \n')
         for predictor in CategoricalPredictorList:
             CategoryGroupLists=inputData.groupby(predictor)[TargetVariable].
     ↪apply(list)
             AnovaResults = f_oneway(*CategoryGroupLists)

             # If the ANOVA P-Value is <0.05, that means we reject H0
```

```python
        if (AnovaResults[1] < 0.05):
            print(predictor, 'is correlated with', TargetVariable, '| P-Value:
    ↪', AnovaResults[1])
            SelectedPredictors.append(predictor)
        else:
            print(predictor, 'is NOT correlated with', TargetVariable, '|␣
    ↪P-Value:', AnovaResults[1])

    return(SelectedPredictors)
```

```python
[ ]: # Calling the function to check which categorical variables are correlated with␣
     ↪target
     CategoricalPredictorList=['FuelType', 'HP', 'MetColor', 'Automatic', 'CC',␣
     ↪'Doors']
     FunctionAnova(inputData=df, TargetVariable='Price',␣
       ↪CategoricalPredictorList=CategoricalPredictorList)
```

ANOVA Results

FuelType is correlated with Price | P-Value: 0.044583699346313316
HP is correlated with Price | P-Value: 2.147973807158519e-112
MetColor is correlated with Price | P-Value: 3.5400828979534804e-05
Automatic is NOT correlated with Price | P-Value: 0.2102673589326726
CC is correlated with Price | P-Value: 3.931461326875801e-47
Doors is correlated with Price | P-Value: 5.605466564639052e-13

```python
[ ]: ['FuelType', 'HP', 'MetColor', 'CC', 'Doors']
```

The results of ANOVA confirm our visual analysis using box plots above.

All categorical variables are correlated with the Target variable except "Automatic". Fuel type and met color is correlated which is a bit strange if we take the boxplot into account.

Final selected Categorical columns:

'HP', 'MetColor', 'CC', 'Doors', 'FuelType'

```python
[ ]: SelectedColumns=['Age','KM','Weight','HP', 'MetColor', 'CC', 'Doors',␣
     ↪'FuelType']

     # Selecting final columns
     data4dl=df[SelectedColumns]
     data4dl.head()
```

```
[ ]:     Age     KM  Weight  HP  MetColor      CC  Doors FuelType
     0  23.0  46986  1165.0  90         1  2000.0      3   Diesel
     1  23.0  72937  1165.0  90         1  2000.0      3   Diesel
     2  24.0  41711  1165.0  90         1  2000.0      3   Diesel
     3  26.0  48000  1165.0  90         0  2000.0      3   Diesel
```

```
4  30.0  38500  1170.0  90           0  2000.0      3   Diesel
```

```
[ ]: # Saving this final data for reference during deployment
     data4dl.to_pickle('data_for_deep_learing.pkl')
```

```
[ ]: # Treating all the nominal variables at once using dummy variables
     DataForML_Numeric=pd.get_dummies(data4dl)

     # Adding Target Variable to the data
     DataForML_Numeric['Price']=dataset['Price']

     # Printing sample rows
     DataForML_Numeric.head()
```

```
[ ]:     Age     KM  Weight  HP  MetColor      CC  Doors  FuelType_CNG  \
     0  23.0  46986  1165.0  90         1  2000.0      3             0
     1  23.0  72937  1165.0  90         1  2000.0      3             0
     2  24.0  41711  1165.0  90         1  2000.0      3             0
     3  26.0  48000  1165.0  90         0  2000.0      3             0
     4  30.0  38500  1170.0  90         0  2000.0      3             0

        FuelType_Diesel  FuelType_Petrol  Price
     0                1                0  13500
     1                1                0  13750
     2                1                0  13950
     3                1                0  14950
     4                1                0  13750
```

Standardizing   Lets standardize the data. Based on research this is a common practice for neural networks.

https://machinelearningmastery.com/how-to-improve-neural-network-stability-and-modeling-performance-with-data-scaling/

```
[ ]: # Separate Target Variable and Predictor Variables
     TargetVariable=['Price']
     Predictors=['Age', 'KM', 'Weight', 'HP', 'MetColor', 'CC', 'Doors',␣
       ↪'FuelType_CNG', 'FuelType_Diesel', 'FuelType_Petrol']

     X = DataForML_Numeric[Predictors].values
     y = DataForML_Numeric[TargetVariable].values

     ### Sandardization of data ###
     from sklearn.preprocessing import StandardScaler
     PredictorScaler=StandardScaler()
     TargetVarScaler=StandardScaler()
```

```python
# Storing the fit object for later reference
PredictorScalerFit=PredictorScaler.fit(X)
TargetVarScalerFit=TargetVarScaler.fit(y)

# Generating the standardized values of X and y
X = PredictorScalerFit.transform(X)
y = TargetVarScalerFit.transform(y)
```

Splitting data   Splitting the data into 80% training and 20% testing data

```python
# Split the data into training and testing set
from sklearn.model_selection import train_test_split
X_train, X_test, y_train, y_test = train_test_split(X, y, test_size=0.2,␣
 ↪random_state=42)
```

```python
# Quick sanity check with the shapes of Training and testing datasets
print(X_train.shape)
print(y_train.shape)
print(X_test.shape)
print(y_test.shape)
```

```
(1148, 10)
(1148, 1)
(288, 10)
(288, 1)
```

1.0.3   Model Building

Define parameters:

- units=5: This means we are creating a layer with five neurons in it.

- input_dim=10: This means there are seven predictors in the input data which is expected by the first layer.

- kernel_initializer='normal': When the Neurons start their computation, some algorithm has to decide the value for each weight. This parameter specifies that. You can choose different values for it like 'normal' or 'glorot_uniform'.

- activation='relu': This specifies the activation function for the calculations inside each neuron. You can choose values like 'relu', 'tanh', 'sigmoid', etc.

- batch_size=20: This specifies how many rows will be passed to the Network.

- Epochs=50: In simple terms, the ANN looks at the full training data 50 times and adjusts its weights.

https://datascience.aero/aviation-function-deep-learning/

```python
# importing the libraries
from keras.models import Sequential
```

```python
from keras.layers import Dense

# create model
model = Sequential()

# Defining the input layer
model.add(Dense(units=5, input_dim=10, kernel_initializer='normal',␣
 ↪activation='relu'))

# Defining the hidden layer
model.add(Dense(units=5, kernel_initializer='normal', activation='relu'))

# Defining the output layer
model.add(Dense(1, kernel_initializer='normal'))

# Compiling the model
model.compile(loss='mean_squared_error', optimizer='adam')

# Fitting the ANN to the Training set
model.fit(X_train, y_train ,batch_size = 20, epochs = 50, verbose=1)
```

```
Using TensorFlow backend.
2022-09-18 21:27:53.957977: I tensorflow/core/platform/cpu_feature_guard.cc:145]
This TensorFlow binary is optimized with Intel(R) MKL-DNN to use the following
CPU instructions in performance critical operations:  SSE4.1 SSE4.2
To enable them in non-MKL-DNN operations, rebuild TensorFlow with the
appropriate compiler flags.
2022-09-18 21:27:53.958446: I
tensorflow/core/common_runtime/process_util.cc:115] Creating new thread pool
with default inter op setting: 8. Tune using inter_op_parallelism_threads for
best performance.

Epoch 1/50
1148/1148 [==============================] - 0s 345us/step - loss: 0.9930
Epoch 2/50
1148/1148 [==============================] - 0s 59us/step - loss: 0.9418
Epoch 3/50
1148/1148 [==============================] - 0s 57us/step - loss: 0.7675
Epoch 4/50
1148/1148 [==============================] - 0s 58us/step - loss: 0.5911
Epoch 5/50
1148/1148 [==============================] - 0s 61us/step - loss: 0.4476
Epoch 6/50
1148/1148 [==============================] - 0s 59us/step - loss: 0.3258
Epoch 7/50
1148/1148 [==============================] - 0s 59us/step - loss: 0.2392
Epoch 8/50
1148/1148 [==============================] - 0s 60us/step - loss: 0.1864
```

```
Epoch 9/50
1148/1148 [==============================] - 0s 59us/step - loss: 0.1570
Epoch 10/50
1148/1148 [==============================] - 0s 59us/step - loss: 0.1423
Epoch 11/50
1148/1148 [==============================] - 0s 59us/step - loss: 0.1342
Epoch 12/50
1148/1148 [==============================] - 0s 60us/step - loss: 0.1289
Epoch 13/50
1148/1148 [==============================] - 0s 60us/step - loss: 0.1246
Epoch 14/50
1148/1148 [==============================] - 0s 60us/step - loss: 0.1228
Epoch 15/50
1148/1148 [==============================] - 0s 59us/step - loss: 0.1210
Epoch 16/50
1148/1148 [==============================] - 0s 60us/step - loss: 0.1189
Epoch 17/50
1148/1148 [==============================] - 0s 59us/step - loss: 0.1177
Epoch 18/50
1148/1148 [==============================] - 0s 59us/step - loss: 0.1161
Epoch 19/50
1148/1148 [==============================] - 0s 59us/step - loss: 0.1142
Epoch 20/50
1148/1148 [==============================] - 0s 61us/step - loss: 0.1127
Epoch 21/50
1148/1148 [==============================] - 0s 63us/step - loss: 0.1111
Epoch 22/50
1148/1148 [==============================] - 0s 60us/step - loss: 0.1096
Epoch 23/50
1148/1148 [==============================] - 0s 60us/step - loss: 0.1078
Epoch 24/50
1148/1148 [==============================] - 0s 58us/step - loss: 0.1065
Epoch 25/50
1148/1148 [==============================] - 0s 60us/step - loss: 0.1053
Epoch 26/50
1148/1148 [==============================] - 0s 63us/step - loss: 0.1050
Epoch 27/50
1148/1148 [==============================] - 0s 62us/step - loss: 0.1043
Epoch 28/50
1148/1148 [==============================] - 0s 60us/step - loss: 0.1032
Epoch 29/50
1148/1148 [==============================] - 0s 61us/step - loss: 0.1021
Epoch 30/50
1148/1148 [==============================] - 0s 63us/step - loss: 0.1017
Epoch 31/50
1148/1148 [==============================] - 0s 60us/step - loss: 0.1006
Epoch 32/50
1148/1148 [==============================] - 0s 61us/step - loss: 0.1001
```

```
Epoch 33/50
1148/1148 [==============================] - 0s 59us/step - loss: 0.1010
Epoch 34/50
1148/1148 [==============================] - 0s 62us/step - loss: 0.0990
Epoch 35/50
1148/1148 [==============================] - 0s 65us/step - loss: 0.0999
Epoch 36/50
1148/1148 [==============================] - 0s 73us/step - loss: 0.0988
Epoch 37/50
1148/1148 [==============================] - 0s 60us/step - loss: 0.0985
Epoch 38/50
1148/1148 [==============================] - 0s 72us/step - loss: 0.0987
Epoch 39/50
1148/1148 [==============================] - 0s 67us/step - loss: 0.0980
Epoch 40/50
1148/1148 [==============================] - 0s 67us/step - loss: 0.0976
Epoch 41/50
1148/1148 [==============================] - 0s 65us/step - loss: 0.0978
Epoch 42/50
1148/1148 [==============================] - 0s 60us/step - loss: 0.0975
Epoch 43/50
1148/1148 [==============================] - 0s 59us/step - loss: 0.0971
Epoch 44/50
1148/1148 [==============================] - 0s 65us/step - loss: 0.0979
Epoch 45/50
1148/1148 [==============================] - 0s 63us/step - loss: 0.0977
Epoch 46/50
1148/1148 [==============================] - 0s 59us/step - loss: 0.0970
Epoch 47/50
1148/1148 [==============================] - 0s 62us/step - loss: 0.0973
Epoch 48/50
1148/1148 [==============================] - 0s 60us/step - loss: 0.0971
Epoch 49/50
1148/1148 [==============================] - 0s 64us/step - loss: 0.0966
Epoch 50/50
1148/1148 [==============================] - 0s 62us/step - loss: 0.0966
```

```
[ ]: <keras.callbacks.callbacks.History at 0x7f8c161e6290>
```

1.0.4 Model Evaluation

Searching for the best hyperparameters Finding the best values for batch_size and epoch is very important, this can have serious consequences for the performance of the model. There is no magic rule which can help you to decide the number of layers and epochs, you just have to play around and see what works best.

https://betterdatascience.com/3-ways-to-tune-hyperparameters/

https://towardsdatascience.com/a-conceptual-explanation-of-bayesian-model-based-

hyperparameter-optimization-for-machine-learning-b8172278050f

https://neptune.ai/blog/hyperparameter-tuning-in-python-complete-guide

```python
# A loop based approach
# Defining a function to find the best parameters
def function_find_best_params(X_train, y_train, X_test, y_test):

    # Defining the list of hyper parameters to try
    batch_size_list=[5, 10, 15, 20]
    epoch_list  =   [5, 10, 50, 100]

    import pandas as pd
    SearchResultsData = pd.DataFrame(columns=['TrialNumber', 'Parameters',
 ↪'Accuracy'])

    # initializing the trials
    TrialNumber=0
    for batch_size_trial in batch_size_list:
        for epochs_trial in epoch_list:
            TrialNumber+=1
            # create ANN model
            model = Sequential()
            # Defining the first layer of the model
            model.add(Dense(units=5, input_dim=X_train.shape[1],
 ↪kernel_initializer='normal', activation='relu'))

            # Defining the Second layer of the model
            model.add(Dense(units=5, kernel_initializer='normal',
 ↪activation='relu'))

            # The output neuron is a single fully connected node
            # Since we will be predicting a single number
            model.add(Dense(1, kernel_initializer='normal'))

            # Compiling the model
            model.compile(loss='mean_squared_error', optimizer='adam')

            # Fitting the ANN to the Training set
            model.fit(X_train, y_train ,batch_size = batch_size_trial, epochs =
 ↪epochs_trial, verbose=0)

            MAPE = np.mean(100 * (np.abs(y_test-model.predict(X_test))/y_test))

            # printing the results of the current iteration
            print(TrialNumber, 'Parameters:','batch_size:',
 ↪batch_size_trial,'-', 'epochs:',epochs_trial, 'Accuracy:', 100-MAPE)
```

19

```
            SearchResultsData=SearchResultsData.append(pd.
↪DataFrame(data=[[TrialNumber, str(batch_size_trial)+'-'+str(epochs_trial),␣
↪100-MAPE]],
                                                                          ␣
↪columns=['TrialNumber', 'Parameters', 'Accuracy'] ))
    return(SearchResultsData)
```

```
[ ]: # Results:
    ResultsData = function_find_best_params(X_train, y_train, X_test, y_test)
```

```
1 Parameters: batch_size: 5 - epochs: 5 Accuracy: 62.815904593787245
2 Parameters: batch_size: 5 - epochs: 10 Accuracy: 63.82703764002336
3 Parameters: batch_size: 5 - epochs: 50 Accuracy: 75.11623717123254
4 Parameters: batch_size: 5 - epochs: 100 Accuracy: 74.46972123294289
5 Parameters: batch_size: 10 - epochs: 5 Accuracy: 59.37149484240961
6 Parameters: batch_size: 10 - epochs: 10 Accuracy: 60.830322462984974
7 Parameters: batch_size: 10 - epochs: 50 Accuracy: 82.44612362338718
8 Parameters: batch_size: 10 - epochs: 100 Accuracy: 72.566623599674
9 Parameters: batch_size: 15 - epochs: 5 Accuracy: 61.92867301960473
10 Parameters: batch_size: 15 - epochs: 10 Accuracy: 84.31379636835466
11 Parameters: batch_size: 15 - epochs: 50 Accuracy: 60.765902419538776
12 Parameters: batch_size: 15 - epochs: 100 Accuracy: 68.57344706864853
13 Parameters: batch_size: 20 - epochs: 5 Accuracy: 64.63811512867161
14 Parameters: batch_size: 20 - epochs: 10 Accuracy: 58.152033361775494
15 Parameters: batch_size: 20 - epochs: 50 Accuracy: 69.2403194466869
16 Parameters: batch_size: 20 - epochs: 100 Accuracy: 74.25731300672136
```

Visualizing the results of parameter trials for the model

```
[ ]: # Plot results
    %matplotlib inline
    ResultsData.plot(x='Parameters', y='Accuracy', figsize=(15,4), kind='line')
```

```
[ ]: <AxesSubplot:xlabel='Parameters'>
```
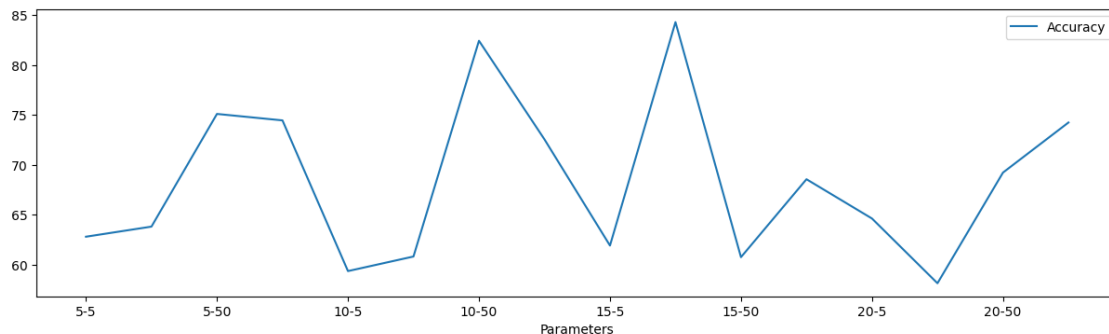
This graph shows that the best set of parameters are in the area of batch_size=15 and epochs=10. Next step is to train the model with these parameters.

Next lets train the model with the hyperparams we just found.

```python
# Fitting the ANN to the Training set
model.fit(X_train, y_train ,batch_size = 15, epochs = 10, verbose=0)

# Generating Predictions on testing data
Predictions=model.predict(X_test)

# Scaling the predicted Price data back to original price scale
Predictions=TargetVarScalerFit.inverse_transform(Predictions)

# Scaling the y_test Price data back to original price scale
y_test_orig=TargetVarScalerFit.inverse_transform(y_test)

# Scaling the test data back to original scale
Test_Data=PredictorScalerFit.inverse_transform(X_test)

TestingData=pd.DataFrame(data=Test_Data, columns=Predictors)
TestingData['Price']=y_test_orig
TestingData['PredictedPrice']=Predictions
TestingData.head()
```

```
      Age        KM  Weight     HP  MetColor      CC  Doors  FuelType_CNG  \
0   50.0   22500.0  1025.0   97.0       1.0  1400.0    3.0           0.0
1   68.0   80426.0  1055.0  110.0       1.0  1600.0    3.0           0.0
2   59.0  130000.0  1135.0   72.0       1.0  2000.0    4.0           0.0
3   71.0   76000.0  1070.0  110.0       1.0  1600.0    5.0           0.0
4   65.0   59000.0  1075.0  110.0       0.0  1600.0    5.0           0.0

   FuelType_Diesel  FuelType_Petrol    Price  PredictedPrice
0              0.0              1.0  10800.0    10570.332031
1              0.0              1.0   9950.0     8870.111328
2              1.0              0.0   7500.0     8601.212891
3              0.0              1.0   9250.0     8917.158203
4              0.0              1.0   9750.0     9724.739258
```

The mean absolute percentage error (MAPE) is the most common measure used to forecast error, probably because the variable's units are scaled to percentage units, which makes it easier to understand.

https://www.statisticshowto.com/mean-absolute-percentage-error-mape/

https://www.askpython.com/python/examples/mape-mean-absolute-percentage-error

```python
# Computing the absolute percent error
```

```
APE=100*(abs(TestingData['Price']-TestingData['PredictedPrice'])/
  ↪TestingData['Price'])
TestingData['APE']=APE

print('The Accuracy of ANN model is:', 100-np.mean(APE))
TestingData.head()
```

The Accuracy of ANN model is: 91.63026516846861

```
[ ]:     Age       KM  Weight     HP  MetColor      CC  Doors  FuelType_CNG  \
    0   50.0   22500.0  1025.0   97.0       1.0  1400.0    3.0           0.0
    1   68.0   80426.0  1055.0  110.0       1.0  1600.0    3.0           0.0
    2   59.0  130000.0  1135.0   72.0       1.0  2000.0    4.0           0.0
    3   71.0   76000.0  1070.0  110.0       1.0  1600.0    5.0           0.0
    4   65.0   59000.0  1075.0  110.0       0.0  1600.0    5.0           0.0

       FuelType_Diesel  FuelType_Petrol    Price  PredictedPrice        APE
    0              0.0              1.0  10800.0    10570.332031   2.126555
    1              0.0              1.0   9950.0     8870.111328  10.853152
    2              1.0              0.0   7500.0     8601.212891  14.682839
    3              0.0              1.0   9250.0     8917.158203   3.598290
    4              0.0              1.0   9750.0     9724.739258   0.259085
```

Finding best hyperparameters using GridSearchCV. The methods above to find the best params are more manual but we can laso use Grid Search to find the best params which is widely used in model evaluation.

```
[ ]: # Function to generate model
    def make_regression_ann(Optimizer_trial):
        from keras.models import Sequential
        from keras.layers import Dense

        model = Sequential()
        model.add(Dense(units=5, input_dim=10, kernel_initializer='normal',␣
    ↪activation='relu'))
        model.add(Dense(units=5, kernel_initializer='normal', activation='relu'))
        model.add(Dense(1, kernel_initializer='normal'))
        model.compile(loss='mean_squared_error', optimizer=Optimizer_trial)
        return model
```

```
[ ]: from sklearn.model_selection import GridSearchCV
    from keras.wrappers.scikit_learn import KerasRegressor

    # Listing all the parameters to try
    Parameter_Trials={'batch_size':[5, 10, 20, 30], 'epochs':[5, 10, 15, 20],␣
    ↪'Optimizer_trial':['adam', 'rmsprop']}
```

```
# Creating the regression model
RegressionModel = KerasRegressor(make_regression_ann, verbose=0)
```

```
# Creating the Grid search space
grid_search=GridSearchCV(estimator = RegressionModel,
 ↪param_grid=Parameter_Trials, scoring='neg_mean_absolute_error', cv=5,
 ↪n_jobs=-1)

# Measuring how much time it took to find the best params
import time
StartTime=time.time()

# Running Grid Search for different paramenters
grid_search.fit(X, y, verbose=1)

EndTime=time.time()
print("########## Total Time Taken: ", round((EndTime-StartTime)/60), 'Minutes')
```

```
Epoch 1/5

   5/1149 […] - ETA: 2:02 - loss: 0.4053Epoch 1/10

   5/1148 […] - ETA: 1:53 - loss: 0.6584Epoch 1/5

   5/1149 […] - ETA: 1:54 - loss: 0.2097Epoch 1/5

   5/1149 […] - ETA: 1:57 - loss: 5.9947
  65/1149 [>…] - ETA: 9s - loss: 1.4036
  60/1148 [>…] - ETA: 9s - loss: 0.3286  Epoch 1/5

   5/1149 […] - ETA: 1:51 - loss: 0.2736
  75/1149 [>…] - ETA: 7s - loss: 1.0288
  75/1149 [>…] - ETA: 8s - loss: 1.7485  Epoch 1/10

   5/1149 […] - ETA: 1:59 - loss: 1.1422
 125/1149 [==>…] - ETA: 5s - loss: 1.1203
 110/1148 [=>…] - ETA: 5s - loss: 0.3255
  75/1149 [>…] - ETA: 7s - loss: 1.0677
 145/1149 [==>…] - ETA: 4s - loss: 1.4593
 135/1149 [==>…] - ETA: 4s - loss: 1.4300
  55/1149 [>…] - ETA: 11s - loss: 1.5781
 180/1149 [===>…] - ETA: 3s - loss: 1.1033
 155/1148 [===>…] - ETA: 4s - loss: 0.3615
 155/1149 [===>…] - ETA: 3s - loss: 0.9420
 240/1149 [=====>…] - ETA: 2s - loss: 1.4132
 200/1149 [====>…] - ETA: 3s - loss: 1.1942
 100/1149 [=>…] - ETA: 6s - loss: 1.4372 Epoch 1/10
```

```
  5/1149 […] - ETA: 2:12 - loss: 0.6518Epoch 1/5

  5/1148 […] - ETA: 2:24 - loss: 0.2279
245/1149 [=====>…] - ETA: 2s - loss: 1.0147
210/1148 [====>…] - ETA: 3s - loss: 0.3686
205/1149 [====>…] - ETA: 2s - loss: 1.1658
300/1149 [======>…] - ETA: 2s - loss: 1.4085
240/1149 [=====>…] - ETA: 2s - loss: 1.2286
135/1149 [==>…] - ETA: 5s - loss: 1.3223
 80/1149 [=>…] - ETA: 8s - loss: 1.1508
 85/1148 [=>…] - ETA: 8s - loss: 0.3918
255/1148 [=====>…] - ETA: 2s - loss: 0.3687
275/1149 [======>…] - ETA: 2s - loss: 1.0045
250/1149 [=====>…] - ETA: 2s - loss: 1.2057
340/1149 [=======>…] - ETA: 1s - loss: 1.3688
290/1149 [======>…] - ETA: 2s - loss: 1.2584
190/1149 [===>…] - ETA: 3s - loss: 1.1182
180/1149 [===>…] - ETA: 3s - loss: 1.2746
185/1148 [===>…] - ETA: 3s - loss: 0.3273
305/1148 [======>…] - ETA: 2s - loss: 0.3741
325/1149 [=======>…] - ETA: 2s - loss: 0.9580
315/1149 [=======>…] - ETA: 1s - loss: 1.1622
400/1149 [=========>…] - ETA: 1s - loss: 1.3353
365/1149 [========>…] - ETA: 1s - loss: 1.1786
245/1149 [=====>…] - ETA: 2s - loss: 1.1481
245/1149 [=====>…] - ETA: 2s - loss: 1.0879
220/1148 [====>…] - ETA: 3s - loss: 0.3317
380/1148 [========>…] - ETA: 1s - loss: 0.3622
405/1149 [========>…] - ETA: 1s - loss: 0.9403
375/1149 [========>…] - ETA: 1s - loss: 1.1334
465/1149 [==========>…] - ETA: 1s - loss: 1.3199
455/1149 [=========>…] - ETA: 1s - loss: 1.2302
310/1149 [=======>…] - ETA: 2s - loss: 1.1595
280/1149 [======>…] - ETA: 2s - loss: 1.2195
240/1148 [=====>…] - ETA: 3s - loss: 0.3347
480/1148 [==========>…] - ETA: 1s - loss: 0.3346
500/1149 [===========>…] - ETA: 1s - loss: 0.9762
415/1149 [=========>…] - ETA: 1s - loss: 1.1304
535/1149 [===========>…] - ETA: 1s - loss: 1.3228
530/1149 [===========>…] - ETA: 1s - loss: 1.1954
370/1149 [========>…] - ETA: 1s - loss: 1.2077
325/1149 [=======>…] - ETA: 2s - loss: 1.1493
550/1148 [============>…] - ETA: 1s - loss: 0.3356
265/1148 [=====>…] - ETA: 3s - loss: 0.3238
580/1149 [==============>…] - ETA: 1s - loss: 0.9348
490/1149 [==========>…] - ETA: 1s - loss: 1.1333
580/1149 [==============>…] - ETA: 0s - loss: 1.2838
```

```
 575/1149 [==============>…] - ETA: 0s - loss: 1.1723
 470/1149 [==========>…] - ETA: 1s - loss: 1.2550
 405/1149 [=========>…] - ETA: 1s - loss: 1.1678
 600/1148 [==============>…] - ETA: 0s - loss: 0.3307
 670/1149 [===============>…] - ETA: 0s - loss: 0.9862
 580/1149 [==============>…] - ETA: 0s - loss: 1.0807
 625/1149 [==============>…] - ETA: 0s - loss: 1.1440
 635/1149 [==============>…] - ETA: 0s - loss: 1.2464
 565/1149 [============>…] - ETA: 1s - loss: 1.2550
 285/1148 [======>…] - ETA: 3s - loss: 0.3417
 460/1149 [==========>…] - ETA: 1s - loss: 1.1568
 660/1148 [===============>…] - ETA: 0s - loss: 0.3231
 635/1149 [==============>…] - ETA: 0s - loss: 1.0482
 725/1149 [================>…] - ETA: 0s - loss: 1.0353
 700/1149 [================>…] - ETA: 0s - loss: 1.2653
 705/1149 [================>…] - ETA: 0s - loss: 1.1822
 615/1149 [==============>…] - ETA: 0s - loss: 1.2378
 345/1148 [========>…] - ETA: 2s - loss: 0.3475
 525/1149 [============>…] - ETA: 1s - loss: 1.1251
 750/1148 [=================>…] - ETA: 0s - loss: 0.3123
 795/1149 [==================>…] - ETA: 0s - loss: 0.9961
 700/1149 [================>…] - ETA: 0s - loss: 1.0298
 805/1149 [==================>…] - ETA: 0s - loss: 1.1914
 800/1149 [==================>…] - ETA: 0s - loss: 1.2513
 680/1149 [===============>…] - ETA: 0s - loss: 1.2174
 425/1148 [=========>…] - ETA: 1s - loss: 0.3495
 855/1148 [====================>…] - ETA: 0s - loss: 0.3051
 605/1149 [==============>…] - ETA: 0s - loss: 1.0912
 870/1149 [====================>…] - ETA: 0s - loss: 0.9741
 770/1149 [==================>…] - ETA: 0s - loss: 1.0449
 885/1149 [=====================>…] - ETA: 0s - loss: 1.1749
 895/1149 [=====================>…] - ETA: 0s - loss: 1.2188
 770/1149 [==================>…] - ETA: 0s - loss: 1.1695
 520/1148 [===========>…] - ETA: 1s - loss: 0.3435
 925/1148 [======================>…] - ETA: 0s - loss: 0.2961
 690/1149 [================>…] - ETA: 0s - loss: 1.1320
 975/1149 [=======================>…] - ETA: 0s - loss: 0.9422
 860/1149 [====================>…] - ETA: 0s - loss: 1.0982
 955/1149 [=======================>…] - ETA: 0s - loss: 1.1432
 955/1149 [=======================>…] - ETA: 0s - loss: 1.1656
 850/1149 [===================>…] - ETA: 0s - loss: 1.1371
 605/1148 [=============>…] - ETA: 1s - loss: 0.3321
 995/1148 [========================>…] - ETA: 0s - loss: 0.2865
 775/1149 [==================>…] - ETA: 0s - loss: 1.1429
1075/1149 [============================>..] - ETA: 0s - loss: 0.9807
 955/1149 [=======================>…] - ETA: 0s - loss: 1.0968
1025/1149 [=========================>…] - ETA: 0s - loss: 1.1112
1025/1149 [=========================>…] - ETA: 0s - loss: 1.1173
```

```
 950/1149 [=====================>…] - ETA: 0s - loss: 1.1248
 695/1148 [=================>…] - ETA: 0s - loss: 0.3315
 870/1149 [====================>…] - ETA: 0s - loss: 1.1129
1085/1148 [===========================>..] - ETA: 0s - loss: 0.2790
1030/1149 [=======================>…] - ETA: 0s - loss: 1.1460
1149/1149 [==============================] - 1s 1ms/step - loss: 0.9655
Epoch 2/5

   5/1149 […] - ETA: 0s - loss: 0.2173
1105/1149 [===========================>..] - ETA: 0s - loss: 1.0911
1115/1149 [===========================>.] - ETA: 0s - loss: 1.0687
1030/1149 [=======================>…] - ETA: 0s - loss: 1.1025
 790/1148 [===================>…] - ETA: 0s - loss: 0.3261
1149/1149 [==============================] - 1s 1ms/step - loss: 1.0778


1148/1148 [==============================] - 1s 1ms/step - loss: 0.2693


1149/1149 [==============================] - 1s 1ms/step - loss: 1.0481
Epoch 2/5

   5/1149 […] - ETA: 0s - loss: 4.2076Epoch 2/10

   5/1148 […] - ETA: 0s - loss: 0.0465Epoch 2/5

   5/1149 […] - ETA: 0s - loss: 0.1201
 975/1149 [=====================>…] - ETA: 0s - loss: 1.0851
1100/1149 [===========================>..] - ETA: 0s - loss: 1.1429
  85/1149 [=>…] - ETA: 0s - loss: 0.3892
1120/1149 [===========================>.] - ETA: 0s - loss: 1.0492
 885/1148 [=====================>…] - ETA: 0s - loss: 0.3176
 100/1148 [=>…] - ETA: 0s - loss: 0.1453
 100/1149 [=>…] - ETA: 0s - loss: 0.8113
 100/1149 [=>…] - ETA: 0s - loss: 0.5665
1055/1149 [========================>…] - ETA: 0s - loss: 1.0447
1149/1149 [==============================] - 1s 1ms/step - loss: 1.1259
Epoch 2/5

   5/1149 […] - ETA: 0s - loss: 0.3120
1149/1149 [==============================] - 1s 1ms/step - loss: 1.0562
Epoch 2/10

   5/1149 […] - ETA: 0s - loss: 0.0085
 170/1149 [===>…] - ETA: 0s - loss: 0.5064
 990/1148 [=======================>…] - ETA: 0s - loss: 0.3054
 190/1148 [===>…] - ETA: 0s - loss: 0.1404
 200/1149 [====>…] - ETA: 0s - loss: 0.6567
1149/1149 [==============================] - 1s 1ms/step - loss: 0.9914
Epoch 2/10
```

```
   5/1149 […] - ETA: 0s - loss: 0.4469
 100/1149 [=>…] - ETA: 0s - loss: 1.1239
 190/1149 [===>…] - ETA: 0s - loss: 0.4558
 100/1149 [=>…] - ETA: 0s - loss: 0.9918
 245/1149 [=====>…] - ETA: 0s - loss: 0.5019
1075/1148 [===========================>..] - ETA: 0s - loss: 0.2992
 290/1148 [======>…] - ETA: 0s - loss: 0.1279
 305/1149 [======>…] - ETA: 0s - loss: 0.5668
 175/1149 [===>…] - ETA: 0s - loss: 0.9731
 105/1149 [=>…] - ETA: 0s - loss: 0.3806
 265/1149 [=====>…] - ETA: 0s - loss: 0.5844
 190/1149 [===>…] - ETA: 0s - loss: 0.8472
 305/1149 [======>…] - ETA: 0s - loss: 0.4885
1148/1148 [=============================] - 2s 1ms/step - loss: 0.2919

 390/1148 [=========>…] - ETA: 0s - loss: 0.1235
 390/1149 [=========>…] - ETA: 0s - loss: 0.5455Epoch 2/5

   5/1148 […] - ETA: 2s - loss: 0.0657
 260/1149 [=====>…] - ETA: 0s - loss: 1.0057
 215/1149 [====>…] - ETA: 0s - loss: 0.3856
 345/1149 [========>…] - ETA: 0s - loss: 0.5776
 285/1149 [======>…] - ETA: 0s - loss: 0.7678
 390/1149 [=========>…] - ETA: 0s - loss: 0.5750
 480/1148 [==========>…] - ETA: 0s - loss: 0.1295
 490/1149 [==========>…] - ETA: 0s - loss: 0.4787
  55/1148 [>…] - ETA: 1s - loss: 0.1565
 335/1149 [=======>…] - ETA: 0s - loss: 0.3373
 345/1149 [========>…] - ETA: 0s - loss: 1.0868
 435/1149 [=========>…] - ETA: 0s - loss: 0.5340
 365/1149 [========>…] - ETA: 0s - loss: 0.7191
 475/1149 [==========>…] - ETA: 0s - loss: 0.5922
 560/1148 [============>…] - ETA: 0s - loss: 0.1273
 580/1149 [==============>…] - ETA: 0s - loss: 0.4552
 125/1148 [==>…] - ETA: 0s - loss: 0.1729
 510/1149 [===========>…] - ETA: 0s - loss: 0.4806
 430/1149 [=========>…] - ETA: 0s - loss: 1.0277
 425/1149 [=========>…] - ETA: 0s - loss: 0.3096
 465/1149 [==========>…] - ETA: 0s - loss: 0.7223
 570/1149 [============>…] - ETA: 0s - loss: 0.5827
 665/1148 [===============>…] - ETA: 0s - loss: 0.1288
 225/1148 [====>…] - ETA: 0s - loss: 0.1567
 495/1149 [==========>…] - ETA: 0s - loss: 0.9979
 590/1149 [=============>…] - ETA: 0s - loss: 0.4527
 475/1149 [==========>…] - ETA: 0s - loss: 0.3014
 645/1149 [==============>…] - ETA: 0s - loss: 0.4432
 665/1149 [===============>…] - ETA: 0s - loss: 0.5321
```

```
 560/1149 [=============>…] - ETA: 0s - loss: 0.7074
 770/1148 [==================>…] - ETA: 0s - loss: 0.1276
 325/1148 [=======>…] - ETA: 0s - loss: 0.1539
 690/1149 [================>…] - ETA: 0s - loss: 0.4098
 575/1149 [=============>…] - ETA: 0s - loss: 0.9180
 525/1149 [===========>…] - ETA: 0s - loss: 0.3008
 705/1149 [================>…] - ETA: 0s - loss: 0.4172
 755/1149 [=================>…] - ETA: 0s - loss: 0.4888
 655/1149 [==============>…] - ETA: 0s - loss: 0.6571
 855/1148 [===================>…] - ETA: 0s - loss: 0.1242
 410/1148 [=========>…] - ETA: 0s - loss: 0.1447
 780/1149 [==================>…] - ETA: 0s - loss: 0.3766
 665/1149 [==============>…] - ETA: 0s - loss: 0.8971
 635/1149 [==============>…] - ETA: 0s - loss: 0.2815
 830/1149 [==================>…] - ETA: 0s - loss: 0.3846
 855/1149 [===================>…] - ETA: 0s - loss: 0.4635
 730/1149 [=================>…] - ETA: 0s - loss: 0.6566
 930/1148 [=====================>…] - ETA: 0s - loss: 0.1232
 885/1149 [====================>…] - ETA: 0s - loss: 0.3458
 490/1148 [==========>…] - ETA: 0s - loss: 0.1402
 745/1149 [=================>…] - ETA: 0s - loss: 0.8507
 750/1149 [=================>…] - ETA: 0s - loss: 0.2636
 965/1149 [=====================>…] - ETA: 0s - loss: 0.3614
 950/1149 [=====================>…] - ETA: 0s - loss: 0.4288
 785/1149 [==================>…] - ETA: 0s - loss: 0.6224
1005/1148 [========================>…] - ETA: 0s - loss: 0.1209
 585/1148 [=============>…] - ETA: 0s - loss: 0.1343
 835/1149 [===================>…] - ETA: 0s - loss: 0.8632
 965/1149 [=====================>…] - ETA: 0s - loss: 0.3313
 830/1149 [==================>…] - ETA: 0s - loss: 0.2541
1055/1149 [========================>…] - ETA: 0s - loss: 0.3449
 895/1149 [====================>…] - ETA: 0s - loss: 0.5810
1020/1149 [========================>…] - ETA: 0s - loss: 0.4228
1130/1148 [=============================>.] - ETA: 0s - loss: 0.1188
 700/1148 [=================>…] - ETA: 0s - loss: 0.1300
 940/1149 [=====================>…] - ETA: 0s - loss: 0.8850
1148/1148 [==============================] - 1s 548us/step - loss: 0.1183
Epoch 3/10

   5/1148 […] - ETA: 0s - loss: 0.0686
1040/1149 [=========================>…] - ETA: 0s - loss: 0.3179
 895/1149 [====================>…] - ETA: 0s - loss: 0.2462
1120/1149 [============================>.] - ETA: 0s - loss: 0.3314
1020/1149 [========================>…] - ETA: 0s - loss: 0.5315
1090/1149 [==========================>..] - ETA: 0s - loss: 0.4047
1149/1149 [==============================] - 1s 576us/step - loss: 0.3265
Epoch 3/5
```

```
   5/1149 […] - ETA: 0s - loss: 0.1873
 820/1148 [====================>…] - ETA: 0s - loss: 0.1347
1035/1149 [==========================>…] - ETA: 0s - loss: 0.9032
 125/1148 [==>…] - ETA: 0s - loss: 0.1519
 965/1149 [=======================>…] - ETA: 0s - loss: 0.2389
1149/1149 [==============================] - 1s 624us/step - loss: 0.3970


1115/1149 [===========================>.] - ETA: 0s - loss: 0.3035Epoch 3/5

   5/1149 […] - ETA: 0s - loss: 0.0648
1120/1149 [===========================>.] - ETA: 0s - loss: 0.5014
1149/1149 [==============================] - 1s 609us/step - loss: 0.2964
Epoch 3/5

   5/1149 […] - ETA: 0s - loss: 0.1752
1149/1149 [==============================] - 1s 564us/step - loss: 0.4910
Epoch 3/10

   5/1149 […] - ETA: 1s - loss: 0.0619
  95/1149 [=>…] - ETA: 0s - loss: 0.1578
 905/1148 [=====================>…] - ETA: 0s - loss: 0.1313
1130/1149 [============================>.] - ETA: 0s - loss: 0.8842
 210/1148 [====>…] - ETA: 0s - loss: 0.1197
1070/1149 [==========================>…] - ETA: 0s - loss: 0.2362
 105/1149 [=>…] - ETA: 0s - loss: 0.1679
1149/1149 [==============================] - 1s 596us/step - loss: 0.8887
Epoch 3/5

   5/1149 […] - ETA: 0s - loss: 2.1328
  95/1149 [=>…] - ETA: 0s - loss: 0.1397
  80/1149 [=>…] - ETA: 0s - loss: 0.3114
 185/1149 [===>…] - ETA: 0s - loss: 0.1941
1149/1149 [==============================] - 1s 579us/step - loss: 0.2272
Epoch 3/10

   5/1149 […] - ETA: 0s - loss: 0.2098
 985/1148 [=======================>…] - ETA: 0s - loss: 0.1287
 200/1149 [====>…] - ETA: 0s - loss: 0.1827
 310/1148 [=======>…] - ETA: 0s - loss: 0.1054
  90/1149 [=>…] - ETA: 0s - loss: 0.9216
 180/1149 [===>…] - ETA: 0s - loss: 0.1779
 175/1149 [===>…] - ETA: 0s - loss: 0.2513
 265/1149 [=====>…] - ETA: 0s - loss: 0.1958
 105/1149 [=>…] - ETA: 0s - loss: 0.1829
1065/1148 [=========================>…] - ETA: 0s - loss: 0.1260
 385/1148 [=========>…] - ETA: 0s - loss: 0.0962
 310/1149 [=======>…] - ETA: 0s - loss: 0.1852
 185/1149 [===>…] - ETA: 0s - loss: 0.7245
```

```
 265/1149 [=====>…] - ETA: 0s - loss: 0.1848
 295/1149 [======>…] - ETA: 0s - loss: 0.2417
 365/1149 [========>…] - ETA: 0s - loss: 0.2080
 165/1149 [===>…] - ETA: 0s - loss: 0.1549
1125/1148 [===========================>.] - ETA: 0s - loss: 0.1246
 435/1148 [=========>…] - ETA: 0s - loss: 0.0969
 430/1149 [=========>…] - ETA: 0s - loss: 0.1851
1148/1148 [============================] - 1s 603us/step - loss: 0.1239
Epoch 3/5

   5/1148 […] - ETA: 0s - loss: 0.0698
 280/1149 [======>…] - ETA: 0s - loss: 0.8165
 350/1149 [========>…] - ETA: 0s - loss: 0.1605
 405/1149 [========>…] - ETA: 0s - loss: 0.2415
 455/1149 [=========>…] - ETA: 0s - loss: 0.2059
 260/1149 [=====>…] - ETA: 0s - loss: 0.1508
 515/1148 [===========>…] - ETA: 0s - loss: 0.0981
 535/1149 [===========>…] - ETA: 0s - loss: 0.1775
  95/1148 [=>…] - ETA: 0s - loss: 0.0948
 370/1149 [=======>…] - ETA: 0s - loss: 0.7688
 435/1149 [=========>…] - ETA: 0s - loss: 0.1538
 555/1149 [============>…] - ETA: 0s - loss: 0.2000
 480/1149 [===========>…] - ETA: 0s - loss: 0.2507
 355/1149 [========>…] - ETA: 0s - loss: 0.1408
 625/1148 [==============>…] - ETA: 0s - loss: 0.0968
 200/1148 [====>…] - ETA: 0s - loss: 0.1017
 600/1149 [=============>…] - ETA: 0s - loss: 0.1782
 455/1149 [=========>…] - ETA: 0s - loss: 0.7442
 520/1149 [===========>…] - ETA: 0s - loss: 0.1651
 640/1149 [==============>…] - ETA: 0s - loss: 0.1930
 545/1149 [============>…] - ETA: 0s - loss: 0.2381
 460/1149 [==========>…] - ETA: 0s - loss: 0.1362
 730/1148 [=================>…] - ETA: 0s - loss: 0.0947
 665/1149 [===============>…] - ETA: 0s - loss: 0.1706
 305/1148 [======>…] - ETA: 0s - loss: 0.1022
 540/1149 [============>…] - ETA: 0s - loss: 0.7376
 615/1149 [==============>…] - ETA: 0s - loss: 0.1555
 750/1149 [=================>…] - ETA: 0s - loss: 0.1897
 640/1149 [==============>…] - ETA: 0s - loss: 0.2263
 550/1149 [============>…] - ETA: 0s - loss: 0.1415
 815/1148 [===================>…] - ETA: 0s - loss: 0.0923
 770/1149 [==================>…] - ETA: 0s - loss: 0.1761
 375/1148 [========>…] - ETA: 0s - loss: 0.0966
 630/1149 [==============>…] - ETA: 0s - loss: 0.7142
 720/1149 [=================>…] - ETA: 0s - loss: 0.1474
 845/1149 [====================>…] - ETA: 0s - loss: 0.1811
 745/1149 [=================>…] - ETA: 0s - loss: 0.2117
 605/1149 [=============>…] - ETA: 0s - loss: 0.1394
```

```
 865/1148 [====================>…] - ETA: 0s - loss: 0.0915
 870/1149 [====================>…] - ETA: 0s - loss: 0.1792
 450/1148 [=========>…] - ETA: 0s - loss: 0.0926
 725/1149 [================>…] - ETA: 0s - loss: 0.7869
 820/1149 [===================>…] - ETA: 0s - loss: 0.1418
 925/1149 [======================>…] - ETA: 0s - loss: 0.1791
 855/1149 [====================>…] - ETA: 0s - loss: 0.1987
 680/1149 [==============>…] - ETA: 0s - loss: 0.1384
 940/1148 [======================>…] - ETA: 0s - loss: 0.0918
 950/1149 [======================>…] - ETA: 0s - loss: 0.1789
 530/1148 [===========>…] - ETA: 0s - loss: 0.0889
 810/1149 [===================>…] - ETA: 0s - loss: 0.7495
 920/1149 [======================>…] - ETA: 0s - loss: 0.1384
1020/1149 [=======================>…] - ETA: 0s - loss: 0.1781
 940/1149 [======================>…] - ETA: 0s - loss: 0.1920
 780/1149 [==================>…] - ETA: 0s - loss: 0.1420
1050/1148 [=========================>…] - ETA: 0s - loss: 0.0919
 635/1148 [==============>…] - ETA: 0s - loss: 0.0873
1025/1149 [=======================>…] - ETA: 0s - loss: 0.1753
 895/1149 [=====================>…] - ETA: 0s - loss: 0.7670
1005/1149 [=======================>…] - ETA: 0s - loss: 0.1332
1110/1149 [==========================>..] - ETA: 0s - loss: 0.1711
1035/1149 [=======================>…] - ETA: 0s - loss: 0.1835
 885/1149 [====================>…] - ETA: 0s - loss: 0.1504
1148/1148 [============================] - 1s 587us/step - loss: 0.0935


1149/1149 [============================] - 1s 561us/step - loss: 0.1694


1095/1149 [=========================>..] - ETA: 0s - loss: 0.1753Epoch 4/10

   5/1148 […] - ETA: 0s - loss: 0.0303
 745/1148 [==================>…] - ETA: 0s - loss: 0.0872Epoch 4/5

   5/1149 […] - ETA: 0s - loss: 0.0700
 985/1149 [======================>…] - ETA: 0s - loss: 0.7545
1095/1149 [=========================>..] - ETA: 0s - loss: 0.1327
1149/1149 [============================] - 1s 563us/step - loss: 0.1728
Epoch 4/5

   5/1149 […] - ETA: 0s - loss: 0.1908
1120/1149 [==========================>.] - ETA: 0s - loss: 0.1806
 990/1149 [======================>…] - ETA: 0s - loss: 0.1467
1149/1149 [============================] - 1s 566us/step - loss: 0.1365
Epoch 4/5

   5/1149 […] - ETA: 0s - loss: 0.0226
 120/1148 [==>…] - ETA: 0s - loss: 0.0643
 820/1148 [===================>…] - ETA: 0s - loss: 0.0858
```

```
 100/1149 [=>…] - ETA: 0s - loss: 0.1909
1149/1149 [==============================] - 1s 566us/step - loss: 0.1798
Epoch 4/10

    5/1149 […] - ETA: 0s - loss: 0.2156
1055/1149 [==========================>…] - ETA: 0s - loss: 0.7422
 110/1149 [=>…] - ETA: 0s - loss: 0.1436
1095/1149 [===========================>..] - ETA: 0s - loss: 0.1468
 110/1149 [=>…] - ETA: 0s - loss: 0.1088
 230/1148 [=====>…] - ETA: 0s - loss: 0.0885
 890/1148 [=====================>…] - ETA: 0s - loss: 0.0859
 190/1149 [===>…] - ETA: 0s - loss: 0.1671
  75/1149 [>…] - ETA: 0s - loss: 0.1158
1130/1149 [============================>.] - ETA: 0s - loss: 0.7468
1149/1149 [==============================] - 1s 562us/step - loss: 0.1448
Epoch 4/10

    5/1149 […] - ETA: 0s - loss: 0.0390
1149/1149 [==============================] - 1s 598us/step - loss: 0.7595
Epoch 4/5

    5/1149 […] - ETA: 0s - loss: 0.0411
 220/1149 [====>…] - ETA: 0s - loss: 0.1790
 980/1148 [========================>…] - ETA: 0s - loss: 0.0871
 210/1149 [====>…] - ETA: 0s - loss: 0.1492
 315/1148 [=======>…] - ETA: 0s - loss: 0.0882
 280/1149 [======>…] - ETA: 0s - loss: 0.1457
 180/1149 [===>…] - ETA: 0s - loss: 0.1687
  80/1149 [=>…] - ETA: 0s - loss: 0.1278
 115/1149 [==>…] - ETA: 0s - loss: 0.6440
 320/1149 [=======>…] - ETA: 0s - loss: 0.1620
 305/1149 [======>…] - ETA: 0s - loss: 0.1376
1080/1148 [==========================>..] - ETA: 0s - loss: 0.0909
 365/1148 [========>…] - ETA: 0s - loss: 0.0886
 380/1149 [========>…] - ETA: 0s - loss: 0.1414
 285/1149 [======>…] - ETA: 0s - loss: 0.1505
 140/1149 [==>…] - ETA: 0s - loss: 0.1050
 230/1149 [=====>…] - ETA: 0s - loss: 0.8363
 425/1149 [=========>…] - ETA: 0s - loss: 0.1642
1148/1148 [==============================] - 1s 572us/step - loss: 0.0897
Epoch 4/5

    5/1148 […] - ETA: 0s - loss: 0.0433
 395/1149 [=========>…] - ETA: 0s - loss: 0.1333
 435/1148 [=========>…] - ETA: 0s - loss: 0.0873
 395/1149 [=========>…] - ETA: 0s - loss: 0.1360
 460/1149 [===========>…] - ETA: 0s - loss: 0.1569
 230/1149 [=====>…] - ETA: 0s - loss: 0.1233
```

```
 330/1149 [=======>…] - ETA: 0s - loss: 0.8010
 525/1149 [============>…] - ETA: 0s - loss: 0.1525
  95/1148 [=>…] - ETA: 0s - loss: 0.1057
 480/1149 [===========>…] - ETA: 0s - loss: 0.1358
 535/1148 [============>…] - ETA: 0s - loss: 0.0850
 475/1149 [===========>…] - ETA: 0s - loss: 0.1407
 525/1149 [============>…] - ETA: 0s - loss: 0.1533
 340/1149 [=======>…] - ETA: 0s - loss: 0.1210
 605/1149 [=============>…] - ETA: 0s - loss: 0.1451
 425/1149 [=========>…] - ETA: 0s - loss: 0.8135
 180/1148 [===>…] - ETA: 0s - loss: 0.0971
 575/1149 [=============>…] - ETA: 0s - loss: 0.1269
 640/1148 [==============>…] - ETA: 0s - loss: 0.0829
 560/1149 [============>…] - ETA: 0s - loss: 0.1417
 625/1149 [==============>…] - ETA: 0s - loss: 0.1719
 435/1149 [=========>…] - ETA: 0s - loss: 0.1313
 690/1149 [================>…] - ETA: 0s - loss: 0.1406
 500/1149 [============>…] - ETA: 0s - loss: 0.7818
 260/1148 [=====>…] - ETA: 0s - loss: 0.1036
 655/1149 [===============>…] - ETA: 0s - loss: 0.1262
 745/1148 [=================>…] - ETA: 0s - loss: 0.0824
 655/1149 [===============>…] - ETA: 0s - loss: 0.1425
 720/1149 [=================>…] - ETA: 0s - loss: 0.1672
 550/1149 [============>…] - ETA: 0s - loss: 0.1284
 795/1149 [==================>…] - ETA: 0s - loss: 0.1337
 580/1149 [=============>…] - ETA: 0s - loss: 0.7371
 340/1148 [=======>…] - ETA: 0s - loss: 0.1019
 730/1149 [=================>…] - ETA: 0s - loss: 0.1365
 865/1148 [====================>…] - ETA: 0s - loss: 0.0823
 750/1149 [=================>…] - ETA: 0s - loss: 0.1465
 815/1149 [===================>…] - ETA: 0s - loss: 0.1607
 665/1149 [===============>…] - ETA: 0s - loss: 0.1298
 895/1149 [=====================>…] - ETA: 0s - loss: 0.1376
 645/1149 [==============>…] - ETA: 0s - loss: 0.6998
 405/1148 [=========>…] - ETA: 0s - loss: 0.0988
 805/1149 [===================>…] - ETA: 0s - loss: 0.1329
 970/1148 [======================>…] - ETA: 0s - loss: 0.0831
 840/1149 [===================>…] - ETA: 0s - loss: 0.1468
 920/1149 [=====================>…] - ETA: 0s - loss: 0.1608
 760/1149 [=================>…] - ETA: 0s - loss: 0.1269
 985/1149 [=======================>…] - ETA: 0s - loss: 0.1363
 735/1149 [=================>…] - ETA: 0s - loss: 0.6943
 500/1148 [============>…] - ETA: 0s - loss: 0.0920
 890/1149 [=====================>…] - ETA: 0s - loss: 0.1274
1055/1148 [==========================>…] - ETA: 0s - loss: 0.0881
 920/1149 [=====================>…] - ETA: 0s - loss: 0.1478
1020/1149 [========================>…] - ETA: 0s - loss: 0.1591
 840/1149 [===================>…] - ETA: 0s - loss: 0.1369
```

```
1075/1149 [===========================>..] - ETA: 0s - loss: 0.1362
 835/1149 [=====================>…] - ETA: 0s - loss: 0.6650
 600/1148 [==============>…] - ETA: 0s - loss: 0.0906
 985/1149 [========================>…] - ETA: 0s - loss: 0.1239
1145/1148 [============================>.] - ETA: 0s - loss: 0.0870
1148/1148 [=============================] - 1s 542us/step - loss: 0.0872


1005/1149 [========================>…] - ETA: 0s - loss: 0.1440Epoch 5/10

   5/1148 […] - ETA: 0s - loss: 0.0449
1120/1149 [============================>.] - ETA: 0s - loss: 0.1568
 930/1149 [=======================>…] - ETA: 0s - loss: 0.1374
1149/1149 [=============================] - 1s 533us/step - loss: 0.1364
Epoch 5/5

   5/1149 […] - ETA: 0s - loss: 0.0515
1149/1149 [=============================] - 1s 560us/step - loss: 0.1579
Epoch 5/5

   5/1149 […] - ETA: 0s - loss: 0.0289
 920/1149 [======================>…] - ETA: 0s - loss: 0.6720
 690/1148 [=================>…] - ETA: 0s - loss: 0.0866
1085/1149 [===========================>..] - ETA: 0s - loss: 0.1280
1090/1149 [===========================>..] - ETA: 0s - loss: 0.1389
  95/1148 [=>…] - ETA: 0s - loss: 0.0796
1010/1149 [========================>…] - ETA: 0s - loss: 0.1374
  85/1149 [=>…] - ETA: 0s - loss: 0.0884
  65/1149 [>…] - ETA: 0s - loss: 0.1614
1149/1149 [=============================] - 1s 559us/step - loss: 0.1376


1030/1149 [========================>…] - ETA: 0s - loss: 0.6692Epoch 5/10

   5/1149 […] - ETA: 0s - loss: 0.0887
1149/1149 [=============================] - 1s 571us/step - loss: 0.1269
Epoch 5/5

   5/1149 […] - ETA: 0s - loss: 0.0294
 765/1148 [==================>…] - ETA: 0s - loss: 0.0848
 165/1148 [===>…] - ETA: 0s - loss: 0.0860
1105/1149 [==========================>..] - ETA: 0s - loss: 0.1356
 170/1149 [===>…] - ETA: 0s - loss: 0.1388
1125/1149 [===========================>.] - ETA: 0s - loss: 0.6773
 145/1149 [==>…] - ETA: 0s - loss: 0.1427
  85/1149 [=>…] - ETA: 0s - loss: 0.1105
1149/1149 [=============================] - 1s 555us/step - loss: 0.1350
Epoch 5/10

   5/1149 […] - ETA: 0s - loss: 0.1445
```

```
 100/1149 [=>…] - ETA: 0s - loss: 0.2085
 850/1148 [====================>…] - ETA: 0s - loss: 0.0826
1149/1149 [==============================] - 1s 557us/step - loss: 0.6741
Epoch 5/5

   5/1149 […] - ETA: 0s - loss: 0.1578
 265/1148 [=====>…] - ETA: 0s - loss: 0.0848
 260/1149 [=====>…] - ETA: 0s - loss: 0.1256
 240/1149 [=====>…] - ETA: 0s - loss: 0.1422
 165/1149 [===>…] - ETA: 0s - loss: 0.1306
 190/1149 [===>…] - ETA: 0s - loss: 0.1603
  85/1149 [=>…] - ETA: 0s - loss: 0.1222
 940/1148 [=======================>…] - ETA: 0s - loss: 0.0821
  95/1149 [=>…] - ETA: 0s - loss: 0.6024
 365/1148 [========>…] - ETA: 0s - loss: 0.0861
 360/1149 [========>…] - ETA: 0s - loss: 0.1265
 340/1149 [=======>…] - ETA: 0s - loss: 0.1384
 265/1149 [=====>…] - ETA: 0s - loss: 0.1317
 275/1149 [======>…] - ETA: 0s - loss: 0.1422
 175/1149 [===>…] - ETA: 0s - loss: 0.1181
1030/1148 [========================>…] - ETA: 0s - loss: 0.0865
 190/1149 [===>…] - ETA: 0s - loss: 0.7746
 455/1148 [=========>…] - ETA: 0s - loss: 0.0867
 445/1149 [=========>…] - ETA: 0s - loss: 0.1243
 355/1149 [=======>…] - ETA: 0s - loss: 0.1241
 355/1149 [=======>…] - ETA: 0s - loss: 0.1307
 440/1149 [=========>…] - ETA: 0s - loss: 0.1409
1115/1148 [===========================>.] - ETA: 0s - loss: 0.0849
 270/1149 [======>…] - ETA: 0s - loss: 0.1187
 275/1149 [======>…] - ETA: 0s - loss: 0.6474
 555/1148 [============>…] - ETA: 0s - loss: 0.0853
1148/1148 [==============================] - 1s 602us/step - loss: 0.0840
Epoch 5/5

   5/1148 […] - ETA: 0s - loss: 0.1140
 540/1149 [============>…] - ETA: 0s - loss: 0.1344
 450/1149 [=========>…] - ETA: 0s - loss: 0.1531
 445/1149 [=========>…] - ETA: 0s - loss: 0.1212
 525/1149 [============>…] - ETA: 0s - loss: 0.1450
 355/1149 [=======>…] - ETA: 0s - loss: 0.1239
 365/1149 [=======>…] - ETA: 0s - loss: 0.6136
 645/1148 [==============>…] - ETA: 0s - loss: 0.0834
  85/1148 [=>…] - ETA: 0s - loss: 0.1362
 630/1149 [==============>…] - ETA: 0s - loss: 0.1377
 530/1149 [============>…] - ETA: 0s - loss: 0.1343
 560/1149 [============>…] - ETA: 0s - loss: 0.1435
 620/1149 [==============>…] - ETA: 0s - loss: 0.1355
 445/1149 [=========>…] - ETA: 0s - loss: 0.1242
```

```
 450/1149 [=========>…] - ETA: 0s - loss: 0.5726
 750/1148 [=================>…] - ETA: 0s - loss: 0.0787
 190/1148 [===>…] - ETA: 0s - loss: 0.0956
 720/1149 [================>…] - ETA: 0s - loss: 0.1356
 630/1149 [==============>…] - ETA: 0s - loss: 0.1304
 625/1149 [==============>…] - ETA: 0s - loss: 0.1427
 690/1149 [================>…] - ETA: 0s - loss: 0.1408
 565/1149 [============>…] - ETA: 0s - loss: 0.1142
 525/1149 [===========>…] - ETA: 0s - loss: 0.5895
 850/1148 [===================>…] - ETA: 0s - loss: 0.0839
 295/1148 [======>…] - ETA: 0s - loss: 0.0930
 800/1149 [==================>…] - ETA: 0s - loss: 0.1344
 695/1149 [================>…] - ETA: 0s - loss: 0.1407
 735/1149 [================>…] - ETA: 0s - loss: 0.1294
 760/1149 [=================>…] - ETA: 0s - loss: 0.1444
 665/1149 [===============>…] - ETA: 0s - loss: 0.1218
 605/1149 [=============>…] - ETA: 0s - loss: 0.6077
 945/1148 [=====================>…] - ETA: 0s - loss: 0.0860
 395/1148 [========>…] - ETA: 0s - loss: 0.0929
 895/1149 [====================>…] - ETA: 0s - loss: 0.1337
 790/1149 [=================>…] - ETA: 0s - loss: 0.1355
 825/1149 [===================>…] - ETA: 0s - loss: 0.1290
 845/1149 [====================>…] - ETA: 0s - loss: 0.1549
 760/1149 [=================>…] - ETA: 0s - loss: 0.1195
 715/1149 [================>…] - ETA: 0s - loss: 0.5805
1020/1148 [=======================>…] - ETA: 0s - loss: 0.0858
 490/1148 [==========>…] - ETA: 0s - loss: 0.0907
 990/1149 [=======================>…] - ETA: 0s - loss: 0.1331
 900/1149 [====================>…] - ETA: 0s - loss: 0.1298
 915/1149 [=====================>…] - ETA: 0s - loss: 0.1265
 950/1149 [=====================>…] - ETA: 0s - loss: 0.1508
 840/1149 [===================>…] - ETA: 0s - loss: 0.1201
 805/1149 [===================>…] - ETA: 0s - loss: 0.5973
1100/1148 [============================>..] - ETA: 0s - loss: 0.0862
 570/1148 [============>…] - ETA: 0s - loss: 0.0912
1095/1149 [===========================>..] - ETA: 0s - loss: 0.1288
1010/1149 [=======================>…] - ETA: 0s - loss: 0.1262
1148/1148 [==============================] - 1s 567us/step - loss: 0.0854

1055/1149 [========================>…] - ETA: 0s - loss: 0.1467Epoch 6/10

   5/1148 […] - ETA: 0s - loss: 0.0627
 925/1149 [=====================>…] - ETA: 0s - loss: 0.1366
1005/1149 [=======================>…] - ETA: 0s - loss: 0.1241
 900/1149 [====================>…] - ETA: 0s - loss: 0.6213
1149/1149 [==============================] - 1s 565us/step - loss: 0.1264

 640/1148 [==============>…] - ETA: 0s - loss: 0.0884
```

```
1100/1149 [===========================>..] - ETA: 0s - loss: 0.1268
1149/1149 [==============================] - 1s 588us/step - loss: 0.1510


1030/1149 [=========================>…] - ETA: 0s - loss: 0.1316
 120/1148 [==>…] - ETA: 0s - loss: 0.0912
1075/1149 [==========================>..] - ETA: 0s - loss: 0.1241
 990/1149 [=======================>…] - ETA: 0s - loss: 0.6096
1149/1149 [==============================] - 1s 561us/step - loss: 0.1256
Epoch 6/10

   5/1149 […] - ETA: 0s - loss: 0.1171
 700/1148 [=================>…] - ETA: 0s - loss: 0.0875
1149/1149 [==============================] - 1s 583us/step - loss: 0.1234


1149/1149 [==============================] - 1s 543us/step - loss: 0.1307
Epoch 6/10

   5/1149 […] - ETA: 0s - loss: 0.1389
 235/1148 [=====>…] - ETA: 0s - loss: 0.0827
1090/1149 [===========================>..] - ETA: 0s - loss: 0.6168
 120/1149 [==>…] - ETA: 0s - loss: 0.1017
 795/1148 [===================>…] - ETA: 0s - loss: 0.0867
1149/1149 [==============================] - 1s 562us/step - loss: 0.6059

 365/1148 [========>…] - ETA: 0s - loss: 0.0926
 145/1149 [==>…] - ETA: 0s - loss: 0.1277
 245/1149 [=====>…] - ETA: 0s - loss: 0.0969
 920/1148 [======================>…] - ETA: 0s - loss: 0.0825
 285/1149 [======>…] - ETA: 0s - loss: 0.1224
 480/1148 [==========>…] - ETA: 0s - loss: 0.0909
 375/1149 [========>…] - ETA: 0s - loss: 0.0988
1030/1148 [=========================>…] - ETA: 0s - loss: 0.0826
 410/1149 [=========>…] - ETA: 0s - loss: 0.1178
 590/1148 [==============>…] - ETA: 0s - loss: 0.0898
 480/1149 [==========>…] - ETA: 0s - loss: 0.1091
1148/1148 [==============================] - 1s 544us/step - loss: 0.0820

 530/1149 [============>…] - ETA: 0s - loss: 0.1154
 715/1148 [=================>…] - ETA: 0s - loss: 0.0877
 585/1149 [=============>…] - ETA: 0s - loss: 0.1038
 630/1149 [==============>…] - ETA: 0s - loss: 0.1336
 825/1148 [===================>…] - ETA: 0s - loss: 0.0881
 700/1149 [=================>…] - ETA: 0s - loss: 0.1220
 950/1148 [======================>…] - ETA: 0s - loss: 0.0843
 760/1149 [=================>…] - ETA: 0s - loss: 0.1357
 795/1149 [===================>…] - ETA: 0s - loss: 0.1192
 835/1149 [===================>…] - ETA: 0s - loss: 0.1324
1030/1148 [========================>…] - ETA: 0s - loss: 0.0842
```

```
 875/1149 [=====================>…] – ETA: 0s – loss: 0.1263
 935/1149 [======================>…] – ETA: 0s – loss: 0.1306
1120/1148 [=============================>.] – ETA: 0s – loss: 0.0836
1148/1148 [==============================] – 1s 469us/step – loss: 0.0846


 975/1149 [=======================>…] – ETA: 0s – loss: 0.1244Epoch 7/10

   5/1148 […] – ETA: 0s – loss: 0.0607
1040/1149 [==========================>…] – ETA: 0s – loss: 0.1280
1065/1149 [==========================>…] – ETA: 0s – loss: 0.1234
  75/1148 [>…] – ETA: 0s – loss: 0.0718
1110/1149 [===========================>..] – ETA: 0s – loss: 0.1280
 160/1148 [===>…] – ETA: 0s – loss: 0.0716
1140/1149 [============================>.] – ETA: 0s – loss: 0.1210
1149/1149 [==============================] – 1s 501us/step – loss: 0.1208
Epoch 7/10

   5/1149 […] – ETA: 0s – loss: 0.1527
1149/1149 [==============================] – 1s 479us/step – loss: 0.1278
Epoch 7/10

   5/1149 […] – ETA: 0s – loss: 0.1285
 255/1148 [=====>…] – ETA: 0s – loss: 0.0797
  90/1149 [=>…] – ETA: 0s – loss: 0.1150
  80/1149 [=>…] – ETA: 0s – loss: 0.0948
 335/1148 [=======>…] – ETA: 0s – loss: 0.0849
 175/1149 [===>…] – ETA: 0s – loss: 0.1239
 160/1149 [===>…] – ETA: 0s – loss: 0.1030
 425/1148 [=========>…] – ETA: 0s – loss: 0.0961
 260/1149 [=====>…] – ETA: 0s – loss: 0.1439
 265/1149 [=====>…] – ETA: 0s – loss: 0.1128
 525/1148 [============>…] – ETA: 0s – loss: 0.0890
 365/1149 [=======>…] – ETA: 0s – loss: 0.1372
 360/1149 [=======>…] – ETA: 0s – loss: 0.1196
 595/1148 [==============>…] – ETA: 0s – loss: 0.0872
 425/1149 [=========>…] – ETA: 0s – loss: 0.1301
 405/1149 [========>…] – ETA: 0s – loss: 0.1188Epoch 1/10

   5/1149 […] – ETA: 1:52 – loss: 0.4490
 650/1148 [==============>…] – ETA: 0s – loss: 0.0853
 465/1149 [==========>…] – ETA: 0s – loss: 0.1340
 440/1149 [=========>…] – ETA: 0s – loss: 0.1206
 680/1148 [================>…] – ETA: 0s – loss: 0.0859
  40/1149 [>…] – ETA: 15s – loss: 0.7325 Epoch 1/10

   5/1149 […] – ETA: 2:11 – loss: 1.5596
 500/1149 [============>…] – ETA: 0s – loss: 0.1313
 470/1149 [==========>…] – ETA: 0s – loss: 0.1273
```

38

```
700/1148 [=================>…] - ETA: 0s - loss: 0.0866
 60/1149 [>…] - ETA: 11s - loss: 1.2367
 30/1149 […] - ETA: 23s - loss: 1.2716
525/1149 [============>…] - ETA: 0s - loss: 0.1312
500/1149 [============>…] - ETA: 0s - loss: 0.1268
730/1148 [=================>…] - ETA: 0s - loss: 0.0864
 55/1149 [>…] - ETA: 13s - loss: 0.9313
 95/1149 [=>…] - ETA: 7s - loss: 0.9818 Epoch 1/15

  5/1148 […] - ETA: 2:24 - loss: 0.1761
555/1149 [============>…] - ETA: 0s - loss: 0.1283
525/1149 [============>…] - ETA: 0s - loss: 0.1245
765/1148 [==================>…] - ETA: 0s - loss: 0.0863
130/1149 [==>…] - ETA: 5s - loss: 1.1223
 95/1149 [=>…] - ETA: 8s - loss: 0.8720
 20/1148 […] - ETA: 38s - loss: 0.3141
585/1149 [=============>…] - ETA: 0s - loss: 0.1253
555/1149 [============>…] - ETA: 0s - loss: 0.1223
790/1148 [==================>…] - ETA: 0s - loss: 0.0863
165/1149 [===>…] - ETA: 4s - loss: 1.2112
 45/1148 [>…] - ETA: 17s - loss: 0.3400
125/1149 [==>…] - ETA: 6s - loss: 0.8817
585/1149 [=============>…] - ETA: 0s - loss: 0.1225
625/1149 [==============>…] - ETA: 0s - loss: 0.1230
825/1148 [===================>…] - ETA: 0s - loss: 0.0853
100/1148 [=>…] - ETA: 8s - loss: 0.3539
615/1149 [==============>…] - ETA: 0s - loss: 0.1226
165/1149 [===>…] - ETA: 5s - loss: 0.8526
195/1149 [====>…] - ETA: 4s - loss: 1.2465
660/1149 [===============>…] - ETA: 0s - loss: 0.1213
855/1148 [====================>…] - ETA: 0s - loss: 0.0853
130/1148 [==>…] - ETA: 6s - loss: 0.3658Epoch 1/15

  5/1149 […] - ETA: 3:07 - loss: 3.4277
230/1149 [=====>…] - ETA: 3s - loss: 1.3447
185/1149 [===>…] - ETA: 4s - loss: 0.7970
645/1149 [===============>…] - ETA: 0s - loss: 0.1281
685/1149 [================>…] - ETA: 0s - loss: 0.1294
165/1148 [===>…] - ETA: 5s - loss: 0.3803
880/1148 [===================>…] - ETA: 0s - loss: 0.0858
 40/1149 [>…] - ETA: 24s - loss: 1.7281
265/1149 [=====>…] - ETA: 3s - loss: 1.3296
220/1149 [====>…] - ETA: 4s - loss: 0.8213
685/1149 [================>…] - ETA: 0s - loss: 0.1274
725/1149 [================>…] - ETA: 0s - loss: 0.1297
195/1148 [====>…] - ETA: 4s - loss: 0.3668
915/1148 [=====================>…] - ETA: 0s - loss: 0.0854
 95/1149 [=>…] - ETA: 10s - loss: 1.6845
```

```
 240/1149 [=====>…] - ETA: 3s - loss: 0.8424
 725/1149 [================>…] - ETA: 0s - loss: 0.1248
 765/1149 [=================>…] - ETA: 0s - loss: 0.1279
 290/1149 [======>…] - ETA: 3s - loss: 1.2870
 220/1148 [====>…] - ETA: 4s - loss: 0.3546
 940/1148 [======================>…] - ETA: 0s - loss: 0.0851
 150/1149 [==>…] - ETA: 6s - loss: 1.3431
 275/1149 [======>…] - ETA: 3s - loss: 0.8757
 760/1149 [=================>…] - ETA: 0s - loss: 0.1233
 805/1149 [===================>…] - ETA: 0s - loss: 0.1257
 315/1149 [=======>…] - ETA: 2s - loss: 1.2558
 255/1148 [=====>…] - ETA: 3s - loss: 0.3557
 975/1148 [========================>…] - ETA: 0s - loss: 0.0861
 185/1149 [===>…] - ETA: 5s - loss: 1.3590
 310/1149 [=======>…] - ETA: 3s - loss: 0.9448
 800/1149 [===================>…] - ETA: 0s - loss: 0.1269
 345/1149 [=======>…] - ETA: 2s - loss: 1.2237
 850/1149 [====================>…] - ETA: 0s - loss: 0.1239
 295/1148 [======>…] - ETA: 3s - loss: 0.3559
1010/1148 [=========================>…] - ETA: 0s - loss: 0.0854
 210/1149 [====>…] - ETA: 4s - loss: 1.2999
 850/1149 [====================>…] - ETA: 0s - loss: 0.1253
 340/1149 [=======>…] - ETA: 2s - loss: 0.9581
 380/1149 [========>…] - ETA: 2s - loss: 1.1926
 900/1149 [=====================>…] - ETA: 0s - loss: 0.1227
 300/1148 [======>…] - ETA: 3s - loss: 0.3561
1060/1148 [==========================>…] - ETA: 0s - loss: 0.0842
 225/1149 [====>…] - ETA: 4s - loss: 1.2575
 890/1149 [=====================>…] - ETA: 0s - loss: 0.1340
 430/1149 [=========>…] - ETA: 2s - loss: 1.2515
 375/1149 [========>…] - ETA: 2s - loss: 0.9091
 940/1149 [======================>…] - ETA: 0s - loss: 0.1219
 335/1148 [=======>…] - ETA: 2s - loss: 0.3588
1090/1148 [===========================>..] - ETA: 0s - loss: 0.0844
 255/1149 [=====>…] - ETA: 4s - loss: 1.3542
 925/1149 [======================>…] - ETA: 0s - loss: 0.1317
 405/1149 [========>…] - ETA: 2s - loss: 0.9179
 455/1149 [=========>…] - ETA: 1s - loss: 1.2263
 980/1149 [=======================>…] - ETA: 0s - loss: 0.1192
1130/1148 [===========================>.] - ETA: 0s - loss: 0.0838
 370/1148 [=======>…] - ETA: 2s - loss: 0.3546
 280/1149 [======>…] - ETA: 3s - loss: 1.3052
 965/1149 [=======================>…] - ETA: 0s - loss: 0.1294
1148/1148 [============================] - 1s 1ms/step - loss: 0.0842
Epoch 8/10

   5/1148 […] - ETA: 0s - loss: 0.0407
 440/1149 [=========>…] - ETA: 2s - loss: 0.9411
```

```
 485/1149 [===========>…] - ETA: 1s - loss: 1.3145
1005/1149 [========================>…] - ETA: 0s - loss: 0.1202
 390/1148 [=========>…] - ETA: 2s - loss: 0.3448
 300/1149 [======>…] - ETA: 3s - loss: 1.2559
1010/1149 [========================>…] - ETA: 0s - loss: 0.1290
  65/1148 [>…] - ETA: 0s - loss: 0.0815
 485/1149 [===========>…] - ETA: 1s - loss: 0.9624
 540/1149 [=============>…] - ETA: 1s - loss: 1.2432
1055/1149 [=========================>…] - ETA: 0s - loss: 0.1189
 450/1148 [=========>…] - ETA: 2s - loss: 0.3444
 335/1149 [=======>…] - ETA: 3s - loss: 1.2159
1045/1149 [=========================>…] - ETA: 0s - loss: 0.1282Epoch 1/15

   5/1149 […] - ETA: 4:47 - loss: 0.3283
 120/1148 [==>…] - ETA: 0s - loss: 0.0726
 545/1149 [=============>…] - ETA: 1s - loss: 0.9866
 590/1149 [=============>…] - ETA: 1s - loss: 1.2057
1115/1149 [===========================>.] - ETA: 0s - loss: 0.1179
 500/1148 [============>…] - ETA: 1s - loss: 0.3432
1149/1149 [=============================] - 1s 1ms/step - loss: 0.1176
Epoch 8/10

   5/1149 […] - ETA: 0s - loss: 0.0690
 150/1148 [==>…] - ETA: 1s - loss: 0.0704
 595/1149 [==============>…] - ETA: 1s - loss: 0.9997
 645/1149 [==============>…] - ETA: 1s - loss: 1.1842
1060/1149 [=========================>…] - ETA: 0s - loss: 0.1283
 355/1149 [=======>…] - ETA: 3s - loss: 1.2217
  15/1149 […] - ETA: 1:41 - loss: 1.6335
 545/1148 [=============>…] - ETA: 1s - loss: 0.3385
  30/1149 […] - ETA: 2s - loss: 0.0879
 660/1149 [===============>…] - ETA: 1s - loss: 1.1799
1135/1149 [===========================>.] - ETA: 0s - loss: 0.1265
 430/1149 [==========>…] - ETA: 2s - loss: 1.2344
 175/1148 [===>…] - ETA: 1s - loss: 0.0701
 615/1149 [==============>…] - ETA: 1s - loss: 0.9895
1149/1149 [=============================] - 1s 1ms/step - loss: 0.1260
Epoch 8/10

   5/1149 […] - ETA: 0s - loss: 0.1330
  30/1149 […] - ETA: 52s - loss: 1.2759
 560/1148 [=============>…] - ETA: 1s - loss: 0.3362
  45/1149 [>…] - ETA: 2s - loss: 0.0865
 515/1149 [============>…] - ETA: 1s - loss: 1.1351
 680/1149 [===============>…] - ETA: 1s - loss: 1.1648
  95/1149 [=>…] - ETA: 0s - loss: 0.1386
 195/1148 [====>…] - ETA: 1s - loss: 0.0689
  55/1149 [>…] - ETA: 28s - loss: 1.2471
```

```
640/1149 [===============>…] - ETA: 1s - loss: 0.9807
585/1148 [==============>…] - ETA: 1s - loss: 0.3321
 70/1149 [>…] - ETA: 2s - loss: 0.0726
555/1149 [=============>…] - ETA: 1s - loss: 1.0982
705/1149 [=================>…] - ETA: 1s - loss: 1.1609
230/1148 [=====>…] - ETA: 1s - loss: 0.0674
 90/1149 [=>…] - ETA: 17s - loss: 1.5196
130/1149 [==>…] - ETA: 0s - loss: 0.1838
610/1148 [=============>…] - ETA: 1s - loss: 0.3261
675/1149 [================>…] - ETA: 1s - loss: 0.9976
100/1149 [=>…] - ETA: 2s - loss: 0.0910
580/1149 [=============>…] - ETA: 1s - loss: 1.1458
740/1149 [==================>…] - ETA: 0s - loss: 1.1626
270/1148 [======>…] - ETA: 1s - loss: 0.0816
130/1149 [==>…] - ETA: 12s - loss: 1.3401
190/1149 [===>…] - ETA: 0s - loss: 0.1517
645/1148 [===============>…] - ETA: 1s - loss: 0.3233
705/1149 [=================>…] - ETA: 1s - loss: 1.0093
130/1149 [==>…] - ETA: 2s - loss: 0.0851
605/1149 [=============>…] - ETA: 1s - loss: 1.1698
775/1149 [==================>…] - ETA: 0s - loss: 1.1880
310/1148 [=======>…] - ETA: 1s - loss: 0.0846
225/1149 [====>…] - ETA: 0s - loss: 0.1467
170/1149 [===>…] - ETA: 9s - loss: 1.2810
670/1148 [===============>…] - ETA: 1s - loss: 0.3231
165/1149 [===>…] - ETA: 1s - loss: 0.0844
745/1149 [=================>…] - ETA: 1s - loss: 1.0190
635/1149 [===============>…] - ETA: 1s - loss: 1.1549
335/1148 [=======>…] - ETA: 1s - loss: 0.0848
805/1149 [===================>…] - ETA: 0s - loss: 1.1734
245/1149 [=====>…] - ETA: 1s - loss: 0.1446
200/1149 [====>…] - ETA: 8s - loss: 1.2030
700/1148 [=================>…] - ETA: 1s - loss: 0.3187
200/1149 [====>…] - ETA: 1s - loss: 0.0918
770/1149 [==================>…] - ETA: 0s - loss: 1.0186
665/1149 [===============>…] - ETA: 1s - loss: 1.1367
360/1148 [=======>…] - ETA: 1s - loss: 0.0841
830/1149 [===================>…] - ETA: 0s - loss: 1.1617
715/1148 [=================>…] - ETA: 1s - loss: 0.3166
220/1149 [====>…] - ETA: 7s - loss: 1.1793
225/1149 [====>…] - ETA: 1s - loss: 0.0890
790/1149 [==================>…] - ETA: 0s - loss: 1.0744
680/1149 [===============>…] - ETA: 1s - loss: 1.1242
270/1149 [======>…] - ETA: 1s - loss: 0.1489
380/1148 [=======>…] - ETA: 1s - loss: 0.0856
850/1149 [====================>…] - ETA: 0s - loss: 1.1388
250/1149 [=====>…] - ETA: 6s - loss: 1.1238
745/1148 [=================>…] - ETA: 1s - loss: 0.3151
```

```
 250/1149 [=====>…] - ETA: 1s - loss: 0.0904
 290/1149 [======>…] - ETA: 1s - loss: 0.1448
 815/1149 [===================>…] - ETA: 0s - loss: 1.0620
 710/1149 [=================>…] - ETA: 1s - loss: 1.1124
 410/1148 [=========>…] - ETA: 1s - loss: 0.0905
 890/1149 [=====================>…] - ETA: 0s - loss: 1.1098
 295/1149 [======>…] - ETA: 1s - loss: 0.0920
 290/1149 [======>…] - ETA: 5s - loss: 1.1125
 780/1148 [==================>…] - ETA: 0s - loss: 0.3146
 320/1149 [=======>…] - ETA: 1s - loss: 0.1392
 745/1149 [==================>…] - ETA: 1s - loss: 1.0877
 850/1149 [====================>…] - ETA: 0s - loss: 1.0719
 930/1149 [======================>…] - ETA: 0s - loss: 1.0984
 450/1148 [=========>…] - ETA: 1s - loss: 0.0898
 315/1149 [=======>…] - ETA: 5s - loss: 1.1022
 340/1149 [=======>…] - ETA: 1s - loss: 0.0891
 815/1148 [===================>…] - ETA: 0s - loss: 0.3086
 790/1149 [==================>…] - ETA: 0s - loss: 1.0757
 360/1149 [========>…] - ETA: 1s - loss: 0.1389
 890/1149 [=====================>…] - ETA: 0s - loss: 1.0603
 965/1149 [=======================>…] - ETA: 0s - loss: 1.0685
 490/1148 [===========>…] - ETA: 1s - loss: 0.0896
 365/1149 [========>…] - ETA: 1s - loss: 0.0936
 825/1149 [===================>…] - ETA: 0s - loss: 1.1011
 345/1149 [========>…] - ETA: 4s - loss: 1.1246
 845/1148 [====================>…] - ETA: 0s - loss: 0.3054
 915/1149 [=====================>…] - ETA: 0s - loss: 1.0508
 385/1149 [=========>…] - ETA: 1s - loss: 0.1332
 995/1149 [=======================>…] - ETA: 0s - loss: 1.0647
 520/1148 [============>…] - ETA: 1s - loss: 0.0906
 390/1149 [=========>…] - ETA: 1s - loss: 0.0980
 850/1149 [====================>…] - ETA: 0s - loss: 1.0919
 865/1148 [====================>…] - ETA: 0s - loss: 0.3006
 370/1149 [========>…] - ETA: 4s - loss: 1.1279
 935/1149 [======================>…] - ETA: 0s - loss: 1.0701
 405/1149 [=========>…] - ETA: 1s - loss: 0.1334
 550/1148 [============>…] - ETA: 0s - loss: 0.0907
1025/1149 [========================>…] - ETA: 0s - loss: 1.0679
 430/1149 [=========>…] - ETA: 1s - loss: 0.0975
 905/1148 [====================>…] - ETA: 0s - loss: 0.2948
 975/1149 [=======================>…] - ETA: 0s - loss: 1.0777
 400/1149 [=========>…] - ETA: 3s - loss: 1.2045
 885/1149 [====================>…] - ETA: 0s - loss: 1.0547
 440/1149 [==========>…] - ETA: 1s - loss: 0.1317
 580/1148 [=============>…] - ETA: 0s - loss: 0.0903
1060/1149 [=========================>…] - ETA: 0s - loss: 1.0468
 460/1149 [==========>…] - ETA: 1s - loss: 0.0947
 915/1149 [=====================>…] - ETA: 0s - loss: 1.0480
```

```
1010/1149 [=========================>…] - ETA: 0s - loss: 1.0648
 435/1149 [==========>…] - ETA: 3s - loss: 1.2711
 930/1148 [=======================>…] - ETA: 0s - loss: 0.2914
 475/1149 [==========>…] - ETA: 1s - loss: 0.1339
 605/1148 [==============>…] - ETA: 0s - loss: 0.0891
1085/1149 [============================>..] - ETA: 0s - loss: 1.0424
 495/1149 [==========>…] - ETA: 1s - loss: 0.0927
1040/1149 [=========================>…] - ETA: 0s - loss: 1.0557
 945/1149 [=======================>…] - ETA: 0s - loss: 1.0309
 475/1149 [==========>…] - ETA: 3s - loss: 1.2597
 970/1148 [=======================>…] - ETA: 0s - loss: 0.2866
 520/1149 [============>…] - ETA: 0s - loss: 0.1301
 655/1148 [===============>…] - ETA: 0s - loss: 0.0889
1130/1149 [=============================>.] - ETA: 0s - loss: 1.0221
 555/1149 [=============>…] - ETA: 0s - loss: 0.0917
1010/1149 [=========================>…] - ETA: 0s - loss: 1.0312
 520/1149 [===========>…] - ETA: 2s - loss: 1.2601
1100/1149 [============================>..] - ETA: 0s - loss: 1.0376
1149/1149 [==============================] - 2s 2ms/step - loss: 1.0204
Epoch 2/10

   5/1149 […] - ETA: 0s - loss: 0.7392
1020/1148 [=========================>…] - ETA: 0s - loss: 0.2796
 560/1149 [=============>…] - ETA: 0s - loss: 0.1274
 700/1148 [=================>…] - ETA: 0s - loss: 0.0901
 600/1149 [=============>…] - ETA: 0s - loss: 0.1023
1149/1149 [==============================] - 2s 2ms/step - loss: 1.0116


1060/1149 [=========================>…] - ETA: 0s - loss: 1.0700Epoch 2/10

   5/1149 […] - ETA: 0s - loss: 0.4023
 560/1149 [=============>…] - ETA: 2s - loss: 1.2460
  50/1149 [>…] - ETA: 1s - loss: 0.8285
1065/1148 [==========================>…] - ETA: 0s - loss: 0.2735
 610/1149 [=============>…] - ETA: 0s - loss: 0.1254
 750/1148 [=================>…] - ETA: 0s - loss: 0.0897
 645/1149 [==============>…] - ETA: 0s - loss: 0.1044
  50/1149 [>…] - ETA: 1s - loss: 0.6932
1105/1149 [============================>..] - ETA: 0s - loss: 1.0766
 620/1149 [==============>…] - ETA: 2s - loss: 1.2226
  95/1149 [=>…] - ETA: 1s - loss: 0.7042
1120/1148 [============================>.] - ETA: 0s - loss: 0.2674
 665/1149 [===============>…] - ETA: 0s - loss: 0.1292
 805/1148 [===================>…] - ETA: 0s - loss: 0.0887
1148/1148 [==============================] - 3s 2ms/step - loss: 0.2659
Epoch 2/15

   5/1148 […] - ETA: 0s - loss: 0.1557
```

```
 720/1149 [=================>…] - ETA: 0s - loss: 0.1032
  60/1149 [>…] - ETA: 1s - loss: 0.7318
1149/1149 [==============================] - 3s 2ms/step - loss: 1.0724
Epoch 2/15

   5/1149 […] - ETA: 0s - loss: 0.3193
 130/1149 [==>…] - ETA: 1s - loss: 0.5830
 710/1149 [================>…] - ETA: 0s - loss: 0.1292
 850/1148 [====================>…] - ETA: 0s - loss: 0.0866
  75/1148 [>…] - ETA: 0s - loss: 0.1482
 645/1149 [==============>…] - ETA: 1s - loss: 1.2257
 800/1149 [==================>…] - ETA: 0s - loss: 0.1122
  50/1149 [>…] - ETA: 1s - loss: 0.9847
  75/1149 [>…] - ETA: 2s - loss: 0.9998
 195/1149 [====>…] - ETA: 1s - loss: 0.5878
 770/1149 [==================>…] - ETA: 0s - loss: 0.1255
 915/1148 [=====================>…] - ETA: 0s - loss: 0.0852
 725/1149 [================>…] - ETA: 1s - loss: 1.1956
 165/1148 [===>…] - ETA: 0s - loss: 0.1447
 895/1149 [=====================>…] - ETA: 0s - loss: 0.1146
 130/1149 [==>…] - ETA: 0s - loss: 0.9765
 185/1149 [===>…] - ETA: 1s - loss: 0.7469
 275/1149 [======>…] - ETA: 0s - loss: 0.5740
 860/1149 [====================>…] - ETA: 0s - loss: 0.1285
 990/1148 [=======================>…] - ETA: 0s - loss: 0.0848
 240/1148 [=====>…] - ETA: 0s - loss: 0.1590
 870/1149 [====================>…] - ETA: 0s - loss: 1.1409
 970/1149 [=======================>…] - ETA: 0s - loss: 0.1123
 200/1149 [====>…] - ETA: 0s - loss: 0.9732
 315/1149 [=======>…] - ETA: 0s - loss: 0.6572
 360/1149 [=======>…] - ETA: 0s - loss: 0.5483
 940/1149 [======================>…] - ETA: 0s - loss: 0.1265
1070/1148 [=========================>…] - ETA: 0s - loss: 0.0856
 995/1149 [=======================>…] - ETA: 0s - loss: 1.0820
 315/1148 [=======>…] - ETA: 0s - loss: 0.1740
1040/1149 [=========================>…] - ETA: 0s - loss: 0.1093
 280/1149 [======>…] - ETA: 0s - loss: 1.0409
 420/1149 [=========>…] - ETA: 0s - loss: 0.5489
 445/1149 [==========>…] - ETA: 0s - loss: 0.7025
1030/1149 [========================>…] - ETA: 0s - loss: 0.1254
1148/1148 [==============================] - 1s 1ms/step - loss: 0.0838
Epoch 9/10

   5/1148 […] - ETA: 0s - loss: 0.0381
1075/1149 [==========================>..] - ETA: 0s - loss: 1.0362
 410/1148 [=========>…] - ETA: 0s - loss: 0.1632
1130/1149 [=============================>.] - ETA: 0s - loss: 0.1081
 370/1149 [========>…] - ETA: 0s - loss: 0.9707
```

```
1149/1149 [==============================] - 1s 1ms/step - loss: 0.1146
Epoch 9/10

   5/1149 [...] - ETA: 0s - loss: 0.0803
 510/1149 [============>...] - ETA: 0s - loss: 0.4875
 535/1149 [============>...] - ETA: 0s - loss: 0.6899
1125/1149 [============================>.] - ETA: 0s - loss: 0.1262
 110/1148 [=>...] - ETA: 0s - loss: 0.0789
1149/1149 [==============================] - 1s 1ms/step - loss: 0.1254
Epoch 9/10

   5/1149 [...] - ETA: 0s - loss: 0.0959
1149/1149 [==============================] - 3s 2ms/step - loss: 0.9940
Epoch 2/15

   5/1149 [...] - ETA: 0s - loss: 0.7173
 500/1148 [============>...] - ETA: 0s - loss: 0.1582
 465/1149 [==========>...] - ETA: 0s - loss: 0.9409
 115/1149 [==>...] - ETA: 0s - loss: 0.1308
 595/1149 [==============>...] - ETA: 0s - loss: 0.4435
 620/1149 [===============>...] - ETA: 0s - loss: 0.6566
 210/1148 [====>...] - ETA: 0s - loss: 0.0903
  95/1149 [=>...] - ETA: 0s - loss: 0.1355
 100/1149 [=>...] - ETA: 0s - loss: 0.5473
 595/1148 [==============>...] - ETA: 0s - loss: 0.1558
 565/1149 [============>...] - ETA: 0s - loss: 0.8564
 205/1149 [====>...] - ETA: 0s - loss: 0.1237
 720/1149 [=================>...] - ETA: 0s - loss: 0.6781
 690/1149 [=================>...] - ETA: 0s - loss: 0.4099
 315/1148 [=======>...] - ETA: 0s - loss: 0.0902
 185/1149 [===>...] - ETA: 0s - loss: 0.1257
 190/1149 [===>...] - ETA: 0s - loss: 0.4370
 695/1148 [=================>...] - ETA: 0s - loss: 0.1515
 660/1149 [===============>...] - ETA: 0s - loss: 0.8451
 825/1149 [===================>...] - ETA: 0s - loss: 0.7057
 295/1149 [======>...] - ETA: 0s - loss: 0.1153
 780/1149 [==================>...] - ETA: 0s - loss: 0.3926
 390/1148 [========>...] - ETA: 0s - loss: 0.0881
 280/1149 [======>...] - ETA: 0s - loss: 0.1247
 280/1149 [======>...] - ETA: 0s - loss: 0.3837
 790/1148 [==================>...] - ETA: 0s - loss: 0.1503
 750/1149 [=================>...] - ETA: 0s - loss: 0.8846
 925/1149 [======================>...] - ETA: 0s - loss: 0.7060
 870/1149 [=====================>...] - ETA: 0s - loss: 0.3641
 395/1149 [========>...] - ETA: 0s - loss: 0.1146
 490/1148 [==========>...] - ETA: 0s - loss: 0.0901
 375/1149 [=======>...] - ETA: 0s - loss: 0.1476
 380/1149 [=======>...] - ETA: 0s - loss: 0.3284
```

```
 880/1148 [=====================>…] - ETA: 0s - loss: 0.1462
 825/1149 [====================>…] - ETA: 0s - loss: 0.8895
1010/1149 [=========================>…] - ETA: 0s - loss: 0.7448
 470/1149 [==========>…] - ETA: 0s - loss: 0.1069
 935/1149 [=======================>…] - ETA: 0s - loss: 0.3620
 555/1148 [============>…] - ETA: 0s - loss: 0.0900
 445/1149 [=========>…] - ETA: 0s - loss: 0.1417
 450/1149 [=========>…] - ETA: 0s - loss: 0.3112
 940/1148 [======================>…] - ETA: 0s - loss: 0.1433
 890/1149 [=====================>…] - ETA: 0s - loss: 0.8631
1080/1149 [==========================>..] - ETA: 0s - loss: 0.7335
 545/1149 [============>…] - ETA: 0s - loss: 0.1164
1015/1149 [=========================>…] - ETA: 0s - loss: 0.3438
 635/1148 [==============>…] - ETA: 0s - loss: 0.0866
 530/1149 [============>…] - ETA: 0s - loss: 0.1352
 535/1149 [============>…] - ETA: 0s - loss: 0.2883
1149/1149 [==============================] - 1s 658us/step - loss: 0.7331
Epoch 3/10

    5/1149 […] - ETA: 0s - loss: 0.0504
1055/1148 [=========================>…] - ETA: 0s - loss: 0.1405
 970/1149 [=========================>…] - ETA: 0s - loss: 0.8431
 635/1149 [==============>…] - ETA: 0s - loss: 0.1160
1120/1149 [=============================>.] - ETA: 0s - loss: 0.3245
 695/1148 [=================>…] - ETA: 0s - loss: 0.0845
 595/1149 [=============>…] - ETA: 0s - loss: 0.1363
1149/1149 [==============================] - 1s 657us/step - loss: 0.3200
Epoch 3/10

    5/1149 […] - ETA: 0s - loss: 0.2005
 605/1149 [=============>…] - ETA: 0s - loss: 0.2699
1148/1148 [==============================] - 1s 589us/step - loss: 0.1380
Epoch 3/15

    5/1148 […] - ETA: 0s - loss: 0.0273
 105/1149 [=>…] - ETA: 0s - loss: 0.6858
1065/1149 [=========================>…] - ETA: 0s - loss: 0.8672
 740/1149 [=================>…] - ETA: 0s - loss: 0.1097
 770/1148 [==================>…] - ETA: 0s - loss: 0.0814
 655/1149 [===============>…] - ETA: 0s - loss: 0.1337
 105/1149 [=>…] - ETA: 0s - loss: 0.1712
 685/1149 [===============>…] - ETA: 0s - loss: 0.2624
 190/1149 [===>…] - ETA: 0s - loss: 0.7428
 100/1148 [=>…] - ETA: 0s - loss: 0.1281
1149/1149 [==============================] - 1s 620us/step - loss: 0.8413
Epoch 3/15

    5/1149 […] - ETA: 0s - loss: 0.0357
```

```
 840/1149 [====================>…] - ETA: 0s - loss: 0.1089
 865/1148 [=====================>…] - ETA: 0s - loss: 0.0797
 775/1149 [==================>…] - ETA: 0s - loss: 0.1300
 180/1149 [===>…] - ETA: 0s - loss: 0.1496
 785/1149 [==================>…] - ETA: 0s - loss: 0.2463
 285/1149 [======>…] - ETA: 0s - loss: 0.7698
 185/1148 [===>…] - ETA: 0s - loss: 0.1650
 100/1149 [=>…] - ETA: 0s - loss: 1.1973
 940/1149 [======================>…] - ETA: 0s - loss: 0.1152
 965/1148 [=======================>…] - ETA: 0s - loss: 0.0819
 890/1149 [=====================>…] - ETA: 0s - loss: 0.1253
 265/1149 [=====>…] - ETA: 0s - loss: 0.1392
 890/1149 [=====================>…] - ETA: 0s - loss: 0.2355
 380/1149 [=======>…] - ETA: 0s - loss: 0.7102
 250/1148 [=====>…] - ETA: 0s - loss: 0.1444
 205/1149 [====>…] - ETA: 0s - loss: 0.8648
1040/1149 [========================>…] - ETA: 0s - loss: 0.1142
1050/1148 [========================>…] - ETA: 0s - loss: 0.0814
 985/1149 [=======================>…] - ETA: 0s - loss: 0.1232
 365/1149 [=======>…] - ETA: 0s - loss: 0.1549
 985/1149 [=======================>…] - ETA: 0s - loss: 0.2262
 345/1148 [========>…] - ETA: 0s - loss: 0.1278
 475/1149 [==========>…] - ETA: 0s - loss: 0.6368
 290/1149 [======>…] - ETA: 0s - loss: 0.8441
1125/1149 [==========================>.] - ETA: 0s - loss: 0.1147
1145/1148 [==========================>.] - ETA: 0s - loss: 0.0825
1149/1149 [==========================] - 1s 553us/step - loss: 0.1140


1080/1149 [==========================>..] - ETA: 0s - loss: 0.1255
1148/1148 [==========================] - 1s 592us/step - loss: 0.0825
Epoch 10/10

   5/1149 […] - ETA: 0s - loss: 0.0308Epoch 10/10

   5/1148 […] - ETA: 0s - loss: 0.1265
1090/1149 [==========================>..] - ETA: 0s - loss: 0.2252
 460/1149 [==========>…] - ETA: 0s - loss: 0.1628
 560/1149 [============>…] - ETA: 0s - loss: 0.6115
 400/1149 [========>…] - ETA: 0s - loss: 0.8478
 455/1148 [=========>…] - ETA: 0s - loss: 0.1204
1149/1149 [==========================] - 1s 572us/step - loss: 0.2200


1149/1149 [==========================] - 1s 579us/step - loss: 0.1236
Epoch 3/15

   5/1149 […] - ETA: 0s - loss: 0.4036Epoch 10/10

   5/1149 […] - ETA: 0s - loss: 0.1166
```

```
   95/1149 [=>…] - ETA: 0s - loss: 0.1385
   90/1148 [=>…] - ETA: 0s - loss: 0.0901
  565/1149 [=============>…] - ETA: 0s - loss: 0.1483
  645/1149 [==============>…] - ETA: 0s - loss: 0.6043
  490/1149 [==========>…] - ETA: 0s - loss: 0.8276
  555/1148 [=============>…] - ETA: 0s - loss: 0.1176
  115/1149 [==>…] - ETA: 0s - loss: 0.1461
  100/1149 [=>…] - ETA: 0s - loss: 0.0794
  195/1149 [====>…] - ETA: 0s - loss: 0.1193
  180/1148 [===>…] - ETA: 0s - loss: 0.0813
  660/1149 [===============>…] - ETA: 0s - loss: 0.1574
  580/1149 [=============>…] - ETA: 0s - loss: 0.7670
  730/1149 [=================>…] - ETA: 0s - loss: 0.5716
  645/1148 [==============>…] - ETA: 0s - loss: 0.1193
  220/1149 [====>…] - ETA: 0s - loss: 0.1579
  180/1149 [===>…] - ETA: 0s - loss: 0.1108
  300/1149 [======>…] - ETA: 0s - loss: 0.1006
  270/1148 [======>…] - ETA: 0s - loss: 0.0869
  755/1149 [=================>…] - ETA: 0s - loss: 0.1507
  690/1149 [================>…] - ETA: 0s - loss: 0.7824
  810/1149 [===================>…] - ETA: 0s - loss: 0.5529
  735/1148 [=================>…] - ETA: 0s - loss: 0.1180
  315/1149 [=======>…] - ETA: 0s - loss: 0.1551
  290/1149 [======>…] - ETA: 0s - loss: 0.1094
  390/1149 [========>…] - ETA: 0s - loss: 0.1123
  370/1148 [=======>…] - ETA: 0s - loss: 0.0901
  835/1149 [===================>…] - ETA: 0s - loss: 0.1456
  785/1149 [==================>…] - ETA: 0s - loss: 0.7793
  935/1149 [======================>…] - ETA: 0s - loss: 0.5313
  830/1148 [====================>…] - ETA: 0s - loss: 0.1174
  410/1149 [========>…] - ETA: 0s - loss: 0.1431
  400/1149 [========>…] - ETA: 0s - loss: 0.1022
  465/1149 [==========>…] - ETA: 0s - loss: 0.1100
  465/1148 [==========>…] - ETA: 0s - loss: 0.0856
  910/1149 [=====================>…] - ETA: 0s - loss: 0.1468
  875/1149 [====================>…] - ETA: 0s - loss: 0.7751
 1050/1149 [==========================>…] - ETA: 0s - loss: 0.5450
  925/1148 [======================>…] - ETA: 0s - loss: 0.1127
  500/1149 [===========>…] - ETA: 0s - loss: 0.1351
  510/1149 [==========>…] - ETA: 0s - loss: 0.1138
  555/1149 [=============>…] - ETA: 0s - loss: 0.1166
  560/1148 [=============>…] - ETA: 0s - loss: 0.0850
  990/1149 [======================>…] - ETA: 0s - loss: 0.1446
  965/1149 [======================>…] - ETA: 0s - loss: 0.7692
 1149/1149 [==============================] - 1s 542us/step - loss: 0.5505
Epoch 4/10

    5/1149 […] - ETA: 1s - loss: 1.8392
```

49

```
1035/1148 [==========================>…] - ETA: 0s - loss: 0.1119
 585/1149 [=============>…] - ETA: 0s - loss: 0.1313
 585/1149 [=============>…] - ETA: 0s - loss: 0.1126
 660/1149 [===============>…] - ETA: 0s - loss: 0.1120
 670/1148 [===============>…] - ETA: 0s - loss: 0.0822
1080/1149 [============================>..] - ETA: 0s - loss: 0.1415
1040/1149 [==========================>…] - ETA: 0s - loss: 0.7731
1148/1148 [=============================] - 1s 546us/step - loss: 0.1112
Epoch 4/15

   5/1148 [...] - ETA: 0s - loss: 0.0453
  90/1149 [=>…] - ETA: 0s - loss: 0.4793
 665/1149 [===============>…] - ETA: 0s - loss: 0.1363
 660/1149 [===============>…] - ETA: 0s - loss: 0.1095
 770/1149 [==================>…] - ETA: 0s - loss: 0.1078
 800/1148 [==================>…] - ETA: 0s - loss: 0.0864
1149/1149 [=============================] - 1s 584us/step - loss: 0.1402
Epoch 4/10

   5/1149 [...] - ETA: 0s - loss: 0.6332
1130/1149 [============================>.] - ETA: 0s - loss: 0.7477
 165/1149 [===>…] - ETA: 0s - loss: 0.5627
1149/1149 [=============================] - 1s 544us/step - loss: 0.7440

 110/1148 [=>…] - ETA: 0s - loss: 0.1091Epoch 4/15

   5/1149 [...] - ETA: 0s - loss: 1.3308
 770/1149 [==================>…] - ETA: 0s - loss: 0.1336
 765/1149 [==================>…] - ETA: 0s - loss: 0.1082
 865/1149 [====================>…] - ETA: 0s - loss: 0.1152
 880/1148 [====================>…] - ETA: 0s - loss: 0.0843
 105/1149 [=>…] - ETA: 0s - loss: 0.1263
 180/1148 [===>…] - ETA: 0s - loss: 0.1149
 250/1149 [=====>…] - ETA: 0s - loss: 0.4593
 105/1149 [=>…] - ETA: 0s - loss: 0.5419
 890/1149 [====================>…] - ETA: 0s - loss: 0.1308
 870/1149 [====================>…] - ETA: 0s - loss: 0.1215
 945/1149 [======================>…] - ETA: 0s - loss: 0.1108
 960/1148 [======================>…] - ETA: 0s - loss: 0.0856
 230/1149 [=====>…] - ETA: 0s - loss: 0.1107
 330/1149 [=======>…] - ETA: 0s - loss: 0.4512
 250/1148 [=====>…] - ETA: 0s - loss: 0.1134
 210/1149 [====>…] - ETA: 0s - loss: 0.6724
 995/1149 [=======================>…] - ETA: 0s - loss: 0.1400
1035/1149 [==========================>…] - ETA: 0s - loss: 0.1130
 945/1149 [======================>…] - ETA: 0s - loss: 0.1230
1050/1148 [==========================>…] - ETA: 0s - loss: 0.0834
 320/1149 [=======>…] - ETA: 0s - loss: 0.1127
```

```
 435/1149 [=========>…] - ETA: 0s - loss: 0.4417
 350/1148 [=======>…] - ETA: 0s - loss: 0.1284
 305/1149 [======>…] - ETA: 0s - loss: 0.6402
1095/1149 [===========================>..] - ETA: 0s - loss: 0.1404
1145/1149 [============================>.] - ETA: 0s - loss: 0.1112
1030/1149 [==========================>…] - ETA: 0s - loss: 0.1252
1149/1149 [==============================] - 1s 543us/step - loss: 0.1109

1140/1148 [============================>.] - ETA: 0s - loss: 0.0826
1148/1148 [==============================] - 1s 547us/step - loss: 0.0824

 405/1149 [=========>…] - ETA: 0s - loss: 0.1329
 530/1149 [============>…] - ETA: 0s - loss: 0.3923
1149/1149 [==============================] - 1s 523us/step - loss: 0.1403

 455/1148 [=========>…] - ETA: 0s - loss: 0.1147Epoch 4/15

   5/1149 […] - ETA: 0s - loss: 0.0857
 390/1149 [========>…] - ETA: 0s - loss: 0.6145
1120/1149 [===========================>.] - ETA: 0s - loss: 0.1227
 515/1149 [===========>…] - ETA: 0s - loss: 0.1219
1149/1149 [==============================] - 1s 557us/step - loss: 0.1227

 640/1149 [==============>…] - ETA: 0s - loss: 0.3945
 550/1148 [============>…] - ETA: 0s - loss: 0.1117
 510/1149 [===========>…] - ETA: 0s - loss: 0.5767
 115/1149 [==>…] - ETA: 0s - loss: 0.0975
 645/1149 [==============>…] - ETA: 0s - loss: 0.1244
 775/1149 [==================>…] - ETA: 0s - loss: 0.4343
 670/1148 [===============>…] - ETA: 0s - loss: 0.1086
 235/1149 [=====>…] - ETA: 0s - loss: 0.1408
 620/1149 [==============>…] - ETA: 0s - loss: 0.6025
 760/1149 [==================>…] - ETA: 0s - loss: 0.1221
 885/1149 [=====================>…] - ETA: 0s - loss: 0.4424
 775/1148 [==================>…] - ETA: 0s - loss: 0.1051
 355/1149 [========>…] - ETA: 0s - loss: 0.1366
 745/1149 [=================>…] - ETA: 0s - loss: 0.6249
 875/1149 [====================>…] - ETA: 0s - loss: 0.1202
 995/1149 [=======================>…] - ETA: 0s - loss: 0.4399
 875/1148 [====================>…] - ETA: 0s - loss: 0.1019
 860/1149 [====================>…] - ETA: 0s - loss: 0.6572
 435/1149 [=========>…] - ETA: 0s - loss: 0.1435
 980/1149 [======================>…] - ETA: 0s - loss: 0.1295
1095/1149 [===========================>..] - ETA: 0s - loss: 0.4177
 990/1148 [=======================>…] - ETA: 0s - loss: 0.1031
 980/1149 [======================>…] - ETA: 0s - loss: 0.6615
 500/1149 [===========>…] - ETA: 0s - loss: 0.1384
1149/1149 [==============================] - 1s 517us/step - loss: 0.4158
```

```
Epoch 5/10

   5/1149 […] - ETA: 0s - loss: 0.0795
1075/1149 [==========================>..] - ETA: 0s - loss: 0.1280
1070/1148 [==========================>…] - ETA: 0s - loss: 0.1032
1050/1149 [==========================>…] - ETA: 0s - loss: 0.6608
 610/1149 [==============>…] - ETA: 0s - loss: 0.1349
1149/1149 [==============================] - 1s 483us/step - loss: 0.1291
Epoch 5/10

   5/1149 […] - ETA: 0s - loss: 0.1004
 115/1149 [==>…] - ETA: 0s - loss: 0.2979
1145/1148 [=============================>.] - ETA: 0s - loss: 0.1020
1148/1148 [==============================] - 1s 542us/step - loss: 0.1019

 730/1149 [==================>…] - ETA: 0s - loss: 0.1334
1120/1149 [===========================>.] - ETA: 0s - loss: 0.6446Epoch 5/15

   5/1148 […] - ETA: 1s - loss: 0.0315
1149/1149 [==============================] - 1s 513us/step - loss: 0.6646

 110/1149 [=>…] - ETA: 0s - loss: 0.1019
 225/1149 [====>…] - ETA: 0s - loss: 0.4215Epoch 5/15

   5/1149 […] - ETA: 0s - loss: 0.4316
 840/1149 [====================>…] - ETA: 0s - loss: 0.1344
  85/1148 [=>…] - ETA: 0s - loss: 0.0955
 205/1149 [====>…] - ETA: 0s - loss: 0.1048
 310/1149 [=======>…] - ETA: 0s - loss: 0.3838
 110/1149 [=>…] - ETA: 0s - loss: 0.7170
 935/1149 [======================>…] - ETA: 0s - loss: 0.1415
 165/1148 [===>…] - ETA: 0s - loss: 0.1038
 400/1149 [=========>…] - ETA: 0s - loss: 0.3467
 295/1149 [======>…] - ETA: 0s - loss: 0.1127
 205/1149 [====>…] - ETA: 0s - loss: 0.7150
1020/1149 [========================>…] - ETA: 0s - loss: 0.1381
 260/1148 [=====>…] - ETA: 0s - loss: 0.0976
 480/1149 [==========>…] - ETA: 0s - loss: 0.3550
 385/1149 [=========>…] - ETA: 0s - loss: 0.1155
 310/1149 [=======>…] - ETA: 0s - loss: 0.6091
1110/1149 [==========================>..] - ETA: 0s - loss: 0.1359
 355/1148 [========>…] - ETA: 0s - loss: 0.0982
 465/1149 [===========>…] - ETA: 0s - loss: 0.1327
 570/1149 [=============>…] - ETA: 0s - loss: 0.3771
 415/1149 [=========>…] - ETA: 0s - loss: 0.6164
1149/1149 [==============================] - 1s 519us/step - loss: 0.1357
Epoch 5/15
```

```
   5/1149 […] - ETA: 0s - loss: 0.0105
 445/1148 [=========>…] - ETA: 0s - loss: 0.1011
 560/1149 [============>…] - ETA: 0s - loss: 0.1339
 665/1149 [===============>…] - ETA: 0s - loss: 0.3457
 525/1149 [===========>…] - ETA: 0s - loss: 0.5587
  95/1149 [=>…] - ETA: 0s - loss: 0.1131
 525/1148 [===========>…] - ETA: 0s - loss: 0.0976
 650/1149 [=============>…] - ETA: 0s - loss: 0.1279
 765/1149 [=================>…] - ETA: 0s - loss: 0.3349
 620/1149 [=============>…] - ETA: 0s - loss: 0.6256
 190/1149 [===>…] - ETA: 0s - loss: 0.1101Epoch 1/15

   5/1149 […] - ETA: 1:22 - loss: 0.1358Epoch 1/15

   5/1149 […] - ETA: 1:19 - loss: 2.0328
 620/1148 [==============>…] - ETA: 0s - loss: 0.1005
 745/1149 [=================>…] - ETA: 0s - loss: 0.1275
 865/1149 [====================>…] - ETA: 0s - loss: 0.3202
 710/1149 [================>…] - ETA: 0s - loss: 0.6132
  65/1149 [>…] - ETA: 6s - loss: 1.4531
 300/1149 [======>…] - ETA: 0s - loss: 0.1076
  60/1149 [>…] - ETA: 7s - loss: 0.7812
 720/1148 [================>…] - ETA: 0s - loss: 0.1027
 845/1149 [====================>…] - ETA: 0s - loss: 0.1248
 960/1149 [=======================>…] - ETA: 0s - loss: 0.3059
 815/1149 [===================>…] - ETA: 0s - loss: 0.5974
 145/1149 [==>…] - ETA: 3s - loss: 1.0302
 415/1149 [========>…] - ETA: 0s - loss: 0.1145
 120/1149 [==>…] - ETA: 3s - loss: 0.9802
 815/1148 [===================>…] - ETA: 0s - loss: 0.0985
 955/1149 [======================>…] - ETA: 0s - loss: 0.1209
1060/1149 [=========================>…] - ETA: 0s - loss: 0.3349
 925/1149 [======================>…] - ETA: 0s - loss: 0.6146
 250/1149 [=====>…] - ETA: 1s - loss: 1.0832
 495/1149 [==========>…] - ETA: 0s - loss: 0.1148
 175/1149 [===>…] - ETA: 2s - loss: 0.9673
 910/1148 [=====================>…] - ETA: 0s - loss: 0.0984
1050/1149 [=========================>…] - ETA: 0s - loss: 0.1232
1149/1149 [============================] - 1s 538us/step - loss: 0.3246
Epoch 6/10

   5/1149 […] - ETA: 0s - loss: 0.0510
1030/1149 [========================>…] - ETA: 0s - loss: 0.5871
 355/1149 [=======>…] - ETA: 1s - loss: 1.0278
 595/1149 [=============>…] - ETA: 0s - loss: 0.1178
 225/1149 [====>…] - ETA: 2s - loss: 0.9009
 995/1148 [=======================>…] - ETA: 0s - loss: 0.0970
1149/1149 [============================] - 1s 537us/step - loss: 0.1269
```

```
Epoch 6/10

   5/1149 […] - ETA: 0s - loss: 0.0832
 105/1149 [=>…] - ETA: 0s - loss: 0.1305
1125/1149 [============================>.] - ETA: 0s - loss: 0.5980
 690/1149 [=================>…] - ETA: 0s - loss: 0.1155
 405/1149 [=========>…] - ETA: 1s - loss: 1.0178
1149/1149 [=============================] - 1s 509us/step - loss: 0.5991
Epoch 6/15

   5/1149 […] - ETA: 0s - loss: 0.0671
 295/1149 [======>…] - ETA: 1s - loss: 0.9556
1100/1148 [============================>..] - ETA: 0s - loss: 0.0970
 105/1149 [=>…] - ETA: 0s - loss: 0.0924
 210/1149 [====>…] - ETA: 0s - loss: 0.1190
1148/1148 [=============================] - 1s 563us/step - loss: 0.0965


 800/1149 [===================>…] - ETA: 0s - loss: 0.1275Epoch 6/15

   5/1148 […] - ETA: 0s - loss: 0.1758
 495/1149 [==========>…] - ETA: 0s - loss: 1.0039
  95/1149 [=>…] - ETA: 0s - loss: 0.5903
 385/1149 [=========>…] - ETA: 1s - loss: 0.9998
 210/1149 [====>…] - ETA: 0s - loss: 0.0965
 305/1149 [======>…] - ETA: 0s - loss: 0.2469
  95/1148 [=>…] - ETA: 0s - loss: 0.0864
 570/1149 [=============>…] - ETA: 0s - loss: 1.0401
 910/1149 [======================>…] - ETA: 0s - loss: 0.1289
 200/1149 [====>…] - ETA: 0s - loss: 0.5912
 460/1149 [==========>…] - ETA: 1s - loss: 1.0631Epoch 1/20

   5/1148 […] - ETA: 1:49 - loss: 0.3894
 315/1149 [=======>…] - ETA: 0s - loss: 0.0967
 415/1149 [=========>…] - ETA: 0s - loss: 0.3295
1000/1149 [=========================>…] - ETA: 0s - loss: 0.1312
 180/1148 [===>…] - ETA: 0s - loss: 0.0956
 645/1149 [==============>…] - ETA: 0s - loss: 1.0925
 300/1149 [======>…] - ETA: 0s - loss: 0.6618
 525/1149 [============>…] - ETA: 0s - loss: 1.0292
 395/1149 [=========>…] - ETA: 0s - loss: 0.1082
1050/1149 [==========================>…] - ETA: 0s - loss: 0.1302
 485/1149 [==========>…] - ETA: 0s - loss: 0.3113
 225/1148 [====>…] - ETA: 0s - loss: 0.0916
 660/1149 [===============>…] - ETA: 0s - loss: 1.0931
  40/1148 [>…] - ETA: 14s - loss: 0.3673
 340/1149 [=======>…] - ETA: 0s - loss: 0.6582
 535/1149 [============>…] - ETA: 0s - loss: 1.0243
 430/1149 [=========>…] - ETA: 0s - loss: 0.1088
```

```
1080/1149 [===========================>..] - ETA: 0s - loss: 0.1285
  45/1148 [>…] - ETA: 14s - loss: 0.4002
 530/1149 [============>…] - ETA: 0s - loss: 0.2939
 280/1148 [======>…] - ETA: 0s - loss: 0.0829
 700/1149 [=================>…] - ETA: 0s - loss: 1.0709
 390/1149 [=========>…] - ETA: 0s - loss: 0.6228
 590/1149 [==============>…] - ETA: 0s - loss: 1.0207
1149/1149 [=============================] - 1s 577us/step - loss: 0.1329
Epoch 6/15

   5/1149 […] - ETA: 0s - loss: 0.0946
  80/1148 [=>…] - ETA: 8s - loss: 0.4141
 520/1149 [============>…] - ETA: 0s - loss: 0.1080
 640/1149 [===============>…] - ETA: 0s - loss: 0.3023
 385/1148 [=========>…] - ETA: 0s - loss: 0.0883
 795/1149 [===================>…] - ETA: 0s - loss: 1.0426
 480/1149 [===========>…] - ETA: 0s - loss: 0.5965
 675/1149 [================>…] - ETA: 0s - loss: 1.0487
 100/1149 [=>…] - ETA: 0s - loss: 0.0787
 135/1148 [==>…] - ETA: 5s - loss: 0.3718
 625/1149 [==============>…] - ETA: 0s - loss: 0.1214
 735/1149 [==================>…] - ETA: 0s - loss: 0.3065
 485/1148 [===========>…] - ETA: 0s - loss: 0.0872
 885/1149 [=====================>…] - ETA: 0s - loss: 1.0597
 570/1149 [=============>…] - ETA: 0s - loss: 0.5845
 760/1149 [=================>…] - ETA: 0s - loss: 1.0422
 225/1149 [====>…] - ETA: 0s - loss: 0.1153
 725/1149 [=================>…] - ETA: 0s - loss: 0.1236
 180/1148 [===>…] - ETA: 4s - loss: 0.3632
 825/1149 [====================>…] - ETA: 0s - loss: 0.2929
 590/1148 [=============>…] - ETA: 0s - loss: 0.0962
 970/1149 [========================>…] - ETA: 0s - loss: 1.0572
 680/1149 [================>…] - ETA: 0s - loss: 0.5757
 860/1149 [====================>…] - ETA: 0s - loss: 1.0609
 320/1149 [=======>…] - ETA: 0s - loss: 0.1362
 830/1149 [====================>…] - ETA: 0s - loss: 0.1223
 225/1148 [====>…] - ETA: 3s - loss: 0.3620
 930/1149 [=======================>…] - ETA: 0s - loss: 0.2905
 680/1148 [================>…] - ETA: 0s - loss: 0.0959
1080/1149 [===========================>..] - ETA: 0s - loss: 1.0168
 780/1149 [==================>…] - ETA: 0s - loss: 0.5459
 925/1149 [======================>…] - ETA: 0s - loss: 1.0319
1149/1149 [=============================] - 1s 981us/step - loss: 1.0067

 415/1149 [=========>…] - ETA: 0s - loss: 0.1312Epoch 2/15

   5/1149 […] - ETA: 0s - loss: 0.5897
 940/1149 [=======================>…] - ETA: 0s - loss: 0.1210
```

```
1040/1149 [==========================>…] - ETA: 0s - loss: 0.2760
 275/1148 [======>…] - ETA: 2s - loss: 0.3580
 770/1148 [==================>…] - ETA: 0s - loss: 0.0969
 875/1149 [====================>…] - ETA: 0s - loss: 0.5426
1000/1149 [========================>…] - ETA: 0s - loss: 0.9924
 125/1149 [==>…] - ETA: 0s - loss: 0.6534
 525/1149 [===========>…] - ETA: 0s - loss: 0.1373
1045/1149 [==========================>…] - ETA: 0s - loss: 0.1296
1149/1149 [=============================] - 1s 549us/step - loss: 0.2647

 330/1148 [=======>…] - ETA: 2s - loss: 0.3654
 865/1148 [====================>…] - ETA: 0s - loss: 0.0960Epoch 7/10

   5/1149 […] - ETA: 0s - loss: 0.1319
 970/1149 [========================>…] - ETA: 0s - loss: 0.5642
1110/1149 [============================>..] - ETA: 0s - loss: 0.9814
 195/1149 [====>…] - ETA: 0s - loss: 0.5299
1140/1149 [============================>.] - ETA: 0s - loss: 0.1248
1149/1149 [=============================] - 1s 1ms/step - loss: 0.9691

 630/1149 [==============>…] - ETA: 0s - loss: 0.1325Epoch 2/15

   5/1149 […] - ETA: 0s - loss: 0.2677
1149/1149 [=============================] - 1s 553us/step - loss: 0.1242

 390/1148 [=========>…] - ETA: 1s - loss: 0.3432
 965/1148 [========================>…] - ETA: 0s - loss: 0.0932
 100/1149 [=>…] - ETA: 0s - loss: 0.2242Epoch 7/10

   5/1149 […] - ETA: 0s - loss: 0.0670
1050/1149 [=========================>…] - ETA: 0s - loss: 0.5744
 270/1149 [======>…] - ETA: 0s - loss: 0.5023
 740/1149 [==================>…] - ETA: 0s - loss: 0.1272
 130/1149 [==>…] - ETA: 0s - loss: 0.3887
1050/1148 [=========================>…] - ETA: 0s - loss: 0.0933
 210/1149 [====>…] - ETA: 0s - loss: 0.2175
 445/1148 [=========>…] - ETA: 1s - loss: 0.3373
 100/1149 [=>…] - ETA: 0s - loss: 0.1402
1135/1149 [===========================>.] - ETA: 0s - loss: 0.5466
1149/1149 [=============================] - 1s 598us/step - loss: 0.5432
Epoch 7/15

   5/1149 […] - ETA: 0s - loss: 0.0686
 370/1149 [=======>…] - ETA: 0s - loss: 0.4345
 835/1149 [==================>…] - ETA: 0s - loss: 0.1232
 230/1149 [=====>…] - ETA: 0s - loss: 0.5000
 290/1149 [======>…] - ETA: 0s - loss: 0.2295
 540/1148 [=============>…] - ETA: 1s - loss: 0.3239
```

```
1130/1148 [============================>.] - ETA: 0s - loss: 0.0930
 185/1149 [===>…] - ETA: 0s - loss: 0.1598
1148/1148 [==============================] - 1s 600us/step - loss: 0.0925
Epoch 7/15

   5/1148 […] - ETA: 0s - loss: 0.0809
 105/1149 [=>…] - ETA: 0s - loss: 0.2597
 470/1149 [==========>…] - ETA: 0s - loss: 0.4090
 915/1149 [=====================>…] - ETA: 0s - loss: 0.1205
 325/1149 [=======>…] - ETA: 0s - loss: 0.4882
 380/1149 [========>…] - ETA: 0s - loss: 0.2349
 270/1149 [======>…] - ETA: 0s - loss: 0.1413
 645/1148 [==============>…] - ETA: 0s - loss: 0.3172
  90/1148 [=>…] - ETA: 0s - loss: 0.0734
 200/1149 [====>…] - ETA: 0s - loss: 0.5937
 570/1149 [=============>…] - ETA: 0s - loss: 0.3810
1000/1149 [=======================>…] - ETA: 0s - loss: 0.1183
 410/1149 [=========>…] - ETA: 0s - loss: 0.4693
 470/1149 [==========>…] - ETA: 0s - loss: 0.2736
 760/1148 [=================>…] - ETA: 0s - loss: 0.2998
 365/1149 [=======>…] - ETA: 0s - loss: 0.1463
 185/1148 [===>…] - ETA: 0s - loss: 0.0832
 275/1149 [======>…] - ETA: 0s - loss: 0.5356
 650/1149 [==============>…] - ETA: 0s - loss: 0.3675
1090/1149 [===========================>..] - ETA: 0s - loss: 0.1298
 485/1149 [==========>…] - ETA: 0s - loss: 0.4710
 560/1149 [=============>…] - ETA: 0s - loss: 0.2644
 845/1148 [====================>…] - ETA: 0s - loss: 0.2879
 450/1149 [==========>…] - ETA: 0s - loss: 0.1407
 275/1148 [======>…] - ETA: 0s - loss: 0.0876
 365/1149 [=======>…] - ETA: 0s - loss: 0.5015
1149/1149 [==============================] - 1s 528us/step - loss: 0.1296
Epoch 7/15

   5/1149 […] - ETA: 0s - loss: 0.0297
 740/1149 [=================>…] - ETA: 0s - loss: 0.3411
 560/1149 [=============>…] - ETA: 0s - loss: 0.4553
 635/1149 [==============>…] - ETA: 0s - loss: 0.2498
 935/1148 [======================>…] - ETA: 0s - loss: 0.2724
 525/1149 [===========>…] - ETA: 0s - loss: 0.1376
 355/1148 [=======>…] - ETA: 0s - loss: 0.0843
 430/1149 [=========>…] - ETA: 0s - loss: 0.5434
  65/1149 [>…] - ETA: 0s - loss: 0.0979
 820/1149 [===================>…] - ETA: 0s - loss: 0.3259
 640/1149 [==============>…] - ETA: 0s - loss: 0.4314
 720/1149 [=================>…] - ETA: 0s - loss: 0.2520
1010/1148 [========================>…] - ETA: 0s - loss: 0.2606
 620/1149 [==============>…] - ETA: 0s - loss: 0.1341
```

```
 450/1148 [==========>…] - ETA: 0s - loss: 0.0889
 530/1149 [============>…] - ETA: 0s - loss: 0.5761
 160/1149 [===>…] - ETA: 0s - loss: 0.1634
 915/1149 [=====================>…] - ETA: 0s - loss: 0.3123
 730/1149 [=================>…] - ETA: 0s - loss: 0.4154
 815/1149 [===================>…] - ETA: 0s - loss: 0.2561
1095/1148 [===========================>..] - ETA: 0s - loss: 0.2584
 710/1149 [================>…] - ETA: 0s - loss: 0.1336
 530/1148 [===========>…] - ETA: 0s - loss: 0.0900
 625/1149 [==============>…] - ETA: 0s - loss: 0.5456
 235/1149 [=====>…] - ETA: 0s - loss: 0.1544
1148/1148 [============================] - 1s 1ms/step - loss: 0.2542
Epoch 2/20

   5/1148 […] - ETA: 0s - loss: 0.2671
1025/1149 [========================>…] - ETA: 0s - loss: 0.2996
 820/1149 [==================>…] - ETA: 0s - loss: 0.4078
 930/1149 [======================>…] - ETA: 0s - loss: 0.2462
 805/1149 [===================>…] - ETA: 0s - loss: 0.1304
 610/1148 [=============>…] - ETA: 0s - loss: 0.0925
 715/1149 [================>…] - ETA: 0s - loss: 0.5261
 320/1149 [=======>…] - ETA: 0s - loss: 0.1652
  90/1148 [=>…] - ETA: 0s - loss: 0.1321
1130/1149 [===========================>.] - ETA: 0s - loss: 0.2873
1149/1149 [============================] - 1s 547us/step - loss: 0.2883

 910/1149 [=====================>…] - ETA: 0s - loss: 0.3883Epoch 3/15

   5/1149 […] - ETA: 0s - loss: 0.2427
1035/1149 [=========================>…] - ETA: 0s - loss: 0.2362
 905/1149 [=====================>…] - ETA: 0s - loss: 0.1270
 710/1148 [================>…] - ETA: 0s - loss: 0.0919
 800/1149 [===================>…] - ETA: 0s - loss: 0.5284
 415/1149 [========>…] - ETA: 0s - loss: 0.1502
 180/1148 [===>…] - ETA: 0s - loss: 0.1396
1000/1149 [=======================>…] - ETA: 0s - loss: 0.3881
 100/1149 [=>…] - ETA: 0s - loss: 0.1596
1130/1149 [===========================>.] - ETA: 0s - loss: 0.2261
1000/1149 [=======================>…] - ETA: 0s - loss: 0.1262
1149/1149 [============================] - 1s 551us/step - loss: 0.2260
Epoch 8/10

   5/1149 […] - ETA: 0s - loss: 0.0559
 810/1148 [===================>…] - ETA: 0s - loss: 0.0888
 900/1149 [=====================>…] - ETA: 0s - loss: 0.5092
 510/1149 [============>…] - ETA: 0s - loss: 0.1467
 270/1148 [======>…] - ETA: 0s - loss: 0.1451
1090/1149 [==========================>..] - ETA: 0s - loss: 0.3752
```

```
 195/1149 [====>…] - ETA: 0s - loss: 0.1908
1090/1149 [===========================>..] - ETA: 0s - loss: 0.1243
  95/1149 [=>…] - ETA: 0s - loss: 0.1814
 985/1149 [=======================>…] - ETA: 0s - loss: 0.5187
 895/1148 [=====================>…] - ETA: 0s - loss: 0.0872
 615/1149 [==============>…] - ETA: 0s - loss: 0.1393
1149/1149 [=============================] - 1s 572us/step - loss: 0.3694
Epoch 3/15

   5/1149 […] - ETA: 0s - loss: 0.6738
 360/1148 [========>…] - ETA: 0s - loss: 0.1485
1149/1149 [=============================] - 1s 579us/step - loss: 0.1232
Epoch 8/10

   5/1149 […] - ETA: 0s - loss: 0.0756
 305/1149 [======>…] - ETA: 0s - loss: 0.1745
 190/1149 [===>…] - ETA: 0s - loss: 0.2030
1075/1149 [==========================>..] - ETA: 0s - loss: 0.5014
 990/1148 [=======================>…] - ETA: 0s - loss: 0.0837
 710/1149 [================>…] - ETA: 0s - loss: 0.1382
  90/1149 [=>…] - ETA: 0s - loss: 0.2351
 455/1148 [=========>…] - ETA: 0s - loss: 0.1419
  90/1149 [=>…] - ETA: 0s - loss: 0.1008
 395/1149 [=========>…] - ETA: 0s - loss: 0.1673
1149/1149 [=============================] - 1s 571us/step - loss: 0.4942
Epoch 8/15

   5/1149 […] - ETA: 0s - loss: 0.0908
 285/1149 [======>…] - ETA: 0s - loss: 0.2309
1080/1148 [===========================>..] - ETA: 0s - loss: 0.0869
 820/1149 [===================>…] - ETA: 0s - loss: 0.1354
 175/1149 [===>…] - ETA: 0s - loss: 0.2540
 545/1148 [=============>…] - ETA: 0s - loss: 0.1404
 200/1149 [====>…] - ETA: 0s - loss: 0.0973
 490/1149 [==========>…] - ETA: 0s - loss: 0.1666
 100/1149 [=>…] - ETA: 0s - loss: 0.2743
1148/1148 [=============================] - 1s 583us/step - loss: 0.0905

 380/1149 [=======>…] - ETA: 0s - loss: 0.2071Epoch 8/15

   5/1148 […] - ETA: 0s - loss: 0.1744
 915/1149 [=====================>…] - ETA: 0s - loss: 0.1300
 265/1149 [=====>…] - ETA: 0s - loss: 0.2682
 645/1148 [==============>…] - ETA: 0s - loss: 0.1343
 295/1149 [======>…] - ETA: 0s - loss: 0.1016
 585/1149 [=============>…] - ETA: 0s - loss: 0.1610
 460/1149 [==========>…] - ETA: 0s - loss: 0.2014
  95/1148 [=>…] - ETA: 0s - loss: 0.1199
```

```
 180/1149 [===>…] - ETA: 0s - loss: 0.3448
1005/1149 [=========================>…] - ETA: 0s - loss: 0.1314
 350/1149 [========>…] - ETA: 0s - loss: 0.2451
 740/1148 [==================>…] - ETA: 0s - loss: 0.1276
 390/1149 [=========>…] - ETA: 0s - loss: 0.1181
 675/1149 [===============>…] - ETA: 0s - loss: 0.1544
 565/1149 [=============>…] - ETA: 0s - loss: 0.1958
 275/1149 [======>…] - ETA: 0s - loss: 0.3809
 185/1148 [===>…] - ETA: 0s - loss: 0.1001
1110/1149 [===========================>..] - ETA: 0s - loss: 0.1295
 445/1149 [==========>…] - ETA: 0s - loss: 0.2445
 825/1148 [====================>…] - ETA: 0s - loss: 0.1234
 480/1149 [===========>…] - ETA: 0s - loss: 0.1239
1149/1149 [==============================] - 1s 565us/step - loss: 0.1268

 765/1149 [==================>…] - ETA: 0s - loss: 0.1516Epoch 8/15

   5/1149 […] - ETA: 0s - loss: 0.1067
 665/1149 [===============>…] - ETA: 0s - loss: 0.1922
 370/1149 [========>…] - ETA: 0s - loss: 0.5695
 260/1148 [=====>…] - ETA: 0s - loss: 0.0936
 535/1149 [============>…] - ETA: 0s - loss: 0.2281
 920/1148 [=======================>…] - ETA: 0s - loss: 0.1182
 575/1149 [=============>…] - ETA: 0s - loss: 0.1200
  90/1149 [=>…] - ETA: 0s - loss: 0.1129
 875/1149 [====================>…] - ETA: 0s - loss: 0.1623
 735/1149 [=================>…] - ETA: 0s - loss: 0.2061
 485/1149 [===========>…] - ETA: 0s - loss: 0.4831
 355/1148 [========>…] - ETA: 0s - loss: 0.0887
 610/1149 [=============>…] - ETA: 0s - loss: 0.2279
1005/1148 [========================>…] - ETA: 0s - loss: 0.1176
 670/1149 [===============>…] - ETA: 0s - loss: 0.1224
 165/1149 [===>…] - ETA: 0s - loss: 0.1151
 980/1149 [=======================>…] - ETA: 0s - loss: 0.1578
 815/1149 [===================>…] - ETA: 0s - loss: 0.2075
 595/1149 [=============>…] - ETA: 0s - loss: 0.4536
 470/1148 [==========>…] - ETA: 0s - loss: 0.0908
 680/1149 [===============>…] - ETA: 0s - loss: 0.2235
1080/1148 [==========================>..] - ETA: 0s - loss: 0.1229
 755/1149 [=================>…] - ETA: 0s - loss: 0.1225
 265/1149 [=====>…] - ETA: 0s - loss: 0.1559
1075/1149 [==========================>..] - ETA: 0s - loss: 0.1587
 905/1149 [=====================>…] - ETA: 0s - loss: 0.1999
 695/1149 [=================>…] - ETA: 0s - loss: 0.4539
1148/1148 [==============================] - 1s 565us/step - loss: 0.1212

 540/1148 [=============>…] - ETA: 0s - loss: 0.0898Epoch 3/20
```

```
   5/1148 […] - ETA: 0s - loss: 0.0706
 770/1149 [==================>…] - ETA: 0s - loss: 0.2229
1149/1149 [==============================] - 1s 531us/step - loss: 0.1568
Epoch 4/15

   5/1149 […] - ETA: 0s - loss: 0.0358
 850/1149 [=====================>…] - ETA: 0s - loss: 0.1209
 350/1149 [========>…] - ETA: 0s - loss: 0.1542
1015/1149 [========================>…] - ETA: 0s - loss: 0.1916
 790/1149 [==================>…] - ETA: 0s - loss: 0.4297
 115/1148 [==>…] - ETA: 0s - loss: 0.1276
 625/1148 [==============>…] - ETA: 0s - loss: 0.0923
 870/1149 [=====================>…] - ETA: 0s - loss: 0.2248
 945/1149 [======================>…] - ETA: 0s - loss: 0.1291
 100/1149 [=>…] - ETA: 0s - loss: 0.2810
 455/1149 [==========>…] - ETA: 0s - loss: 0.1452
1130/1149 [===========================>.] - ETA: 0s - loss: 0.2013
 880/1149 [=====================>…] - ETA: 0s - loss: 0.4433
1149/1149 [==============================] - 1s 543us/step - loss: 0.1994

 215/1148 [====>…] - ETA: 0s - loss: 0.1262
 685/1148 [================>…] - ETA: 0s - loss: 0.0887Epoch 9/10

   5/1149 […] - ETA: 0s - loss: 0.0349
 960/1149 [=======================>…] - ETA: 0s - loss: 0.2306
 185/1149 [===>…] - ETA: 0s - loss: 0.1861
1035/1149 [=========================>…] - ETA: 0s - loss: 0.1249
 540/1149 [============>…] - ETA: 0s - loss: 0.1432
 980/1149 [=======================>…] - ETA: 0s - loss: 0.4599
 100/1149 [=>…] - ETA: 0s - loss: 0.1755
 295/1148 [======>…] - ETA: 0s - loss: 0.1415
 780/1148 [==================>…] - ETA: 0s - loss: 0.0876
1060/1149 [=========================>…] - ETA: 0s - loss: 0.2287
1130/1149 [===========================>.] - ETA: 0s - loss: 0.1237
 285/1149 [======>…] - ETA: 0s - loss: 0.1581
1149/1149 [==============================] - 1s 546us/step - loss: 0.1229
Epoch 9/10

   5/1149 […] - ETA: 0s - loss: 0.0266
 640/1149 [==============>…] - ETA: 0s - loss: 0.1377
1070/1149 [==========================>…] - ETA: 0s - loss: 0.4468
 865/1148 [====================>…] - ETA: 0s - loss: 0.0841
 385/1148 [========>…] - ETA: 0s - loss: 0.1298
 210/1149 [====>…] - ETA: 0s - loss: 0.1802
1140/1149 [============================>.] - ETA: 0s - loss: 0.2302
1149/1149 [==============================] - 1s 586us/step - loss: 0.2299
Epoch 4/15
```

```
   5/1149 […] - ETA: 0s - loss: 0.1264
 385/1149 [=========>…] - ETA: 0s - loss: 0.1534
  95/1149 [=>…] - ETA: 0s - loss: 0.1235
1149/1149 [==============================] - 1s 537us/step - loss: 0.4502


 745/1149 [==================>…] - ETA: 0s - loss: 0.1337Epoch 9/15


   5/1149 […] - ETA: 0s - loss: 0.1600
 480/1148 [===========>…] - ETA: 0s - loss: 0.1242
 300/1149 [======>…] - ETA: 0s - loss: 0.2072
 980/1148 [========================>…] - ETA: 0s - loss: 0.0831
  80/1149 [=>…] - ETA: 0s - loss: 0.2031
 475/1149 [===========>…] - ETA: 0s - loss: 0.1469
 185/1149 [===>…] - ETA: 0s - loss: 0.1192
 850/1149 [=====================>…] - ETA: 0s - loss: 0.1327
 110/1149 [=>…] - ETA: 0s - loss: 0.3067
 565/1148 [=============>…] - ETA: 0s - loss: 0.1189
 380/1149 [========>…] - ETA: 0s - loss: 0.1948
1080/1148 [==========================>..] - ETA: 0s - loss: 0.0888
 155/1149 [===>…] - ETA: 0s - loss: 0.1876
 565/1149 [=============>…] - ETA: 0s - loss: 0.1418
1148/1148 [==============================] - 1s 575us/step - loss: 0.0886
Epoch 9/15


   5/1148 […] - ETA: 0s - loss: 0.0890
 290/1149 [======>…] - ETA: 0s - loss: 0.1109
 955/1149 [========================>…] - ETA: 0s - loss: 0.1315
 190/1149 [===>…] - ETA: 0s - loss: 0.2880
 465/1149 [===========>…] - ETA: 0s - loss: 0.1982
 650/1148 [===============>…] - ETA: 0s - loss: 0.1153
 240/1149 [=====>…] - ETA: 0s - loss: 0.1970
 665/1149 [================>…] - ETA: 0s - loss: 0.1362
 380/1149 [========>…] - ETA: 0s - loss: 0.1115
1045/1149 [==========================>…] - ETA: 0s - loss: 0.1274
 305/1149 [======>…] - ETA: 0s - loss: 0.3032
 100/1148 [=>…] - ETA: 0s - loss: 0.0712
 560/1149 [=============>…] - ETA: 0s - loss: 0.1804
 735/1148 [=================>…] - ETA: 0s - loss: 0.1107
 325/1149 [=======>…] - ETA: 0s - loss: 0.1940
 765/1149 [==================>…] - ETA: 0s - loss: 0.1325
 470/1149 [==========>…] - ETA: 0s - loss: 0.1172
1149/1149 [==============================] - 1s 542us/step - loss: 0.1265


 400/1149 [=========>…] - ETA: 0s - loss: 0.3946Epoch 9/15


   5/1149 […] - ETA: 0s - loss: 0.0462
 190/1148 [===>…] - ETA: 0s - loss: 0.0720
 825/1148 [===================>…] - ETA: 0s - loss: 0.1130
```

```
 660/1149 [=================>…] – ETA: 0s – loss: 0.1925
 415/1149 [=========>…] – ETA: 0s – loss: 0.1831
 860/1149 [=====================>…] – ETA: 0s – loss: 0.1345
 565/1149 [=============>…] – ETA: 0s – loss: 0.1288
 100/1149 [=>…] – ETA: 0s – loss: 0.0896
 500/1149 [============>…] – ETA: 0s – loss: 0.3675
 280/1148 [======>…] – ETA: 0s – loss: 0.0762
 925/1148 [======================>…] – ETA: 0s – loss: 0.1116
 750/1149 [==================>…] – ETA: 0s – loss: 0.1838
 520/1149 [============>…] – ETA: 0s – loss: 0.1767
 950/1149 [=======================>…] – ETA: 0s – loss: 0.1322
 660/1149 [================>…] – ETA: 0s – loss: 0.1217
 360/1148 [========>…] – ETA: 0s – loss: 0.0786
 590/1149 [=============>…] – ETA: 0s – loss: 0.3522
 200/1149 [====>…] – ETA: 0s – loss: 0.1140
1015/1148 [========================>…] – ETA: 0s – loss: 0.1078
 835/1149 [====================>…] – ETA: 0s – loss: 0.1829
 620/1149 [==============>…] – ETA: 0s – loss: 0.1723
1040/1149 [==========================>…] – ETA: 0s – loss: 0.1356
 755/1149 [=================>…] – ETA: 0s – loss: 0.1256
 670/1149 [================>…] – ETA: 0s – loss: 0.3414
 445/1148 [==========>…] – ETA: 0s – loss: 0.0880
 290/1149 [======>…] – ETA: 0s – loss: 0.1488
 925/1149 [======================>…] – ETA: 0s – loss: 0.1795
1095/1148 [===========================>..] – ETA: 0s – loss: 0.1089
 715/1149 [=================>…] – ETA: 0s – loss: 0.1805
1149/1149 [==============================] – 1s 536us/step – loss: 0.1351
Epoch 5/15

   5/1149 […] – ETA: 0s – loss: 0.0883
1148/1148 [==============================] – 1s 568us/step – loss: 0.1073
Epoch 4/20

   5/1148 […] – ETA: 0s – loss: 0.0451
 855/1149 [====================>…] – ETA: 0s – loss: 0.1289
 760/1149 [==================>…] – ETA: 0s – loss: 0.3549
 540/1148 [=============>…] – ETA: 0s – loss: 0.0852
 375/1149 [========>…] – ETA: 0s – loss: 0.1387
1040/1149 [=========================>…] – ETA: 0s – loss: 0.1766
 805/1149 [===================>…] – ETA: 0s – loss: 0.1789
 110/1149 [=>…] – ETA: 0s – loss: 0.1273
  85/1148 [=>…] – ETA: 0s – loss: 0.0937
 945/1149 [======================>…] – ETA: 0s – loss: 0.1274
 855/1149 [====================>…] – ETA: 0s – loss: 0.3532
 465/1149 [==========>…] – ETA: 0s – loss: 0.1332
 650/1148 [==============>…] – ETA: 0s – loss: 0.0849
1135/1149 [============================>.] – ETA: 0s – loss: 0.1824
1149/1149 [==============================] – 1s 546us/step – loss: 0.1820
```

```
Epoch 10/10

   5/1149 […] - ETA: 0s - loss: 0.1273
 885/1149 [=====================>…] - ETA: 0s - loss: 0.1845
 200/1149 [====>…] - ETA: 0s - loss: 0.1169
 175/1148 [===>…] - ETA: 0s - loss: 0.1191
 945/1149 [======================>…] - ETA: 0s - loss: 0.3829
 555/1149 [=============>…] - ETA: 0s - loss: 0.1283
1025/1149 [=========================>…] - ETA: 0s - loss: 0.1263
 725/1148 [=================>…] - ETA: 0s - loss: 0.0853
  95/1149 [=>…] - ETA: 0s - loss: 0.1654
 980/1149 [=======================>…] - ETA: 0s - loss: 0.1844
 290/1149 [======>…] - ETA: 0s - loss: 0.1092
 270/1148 [======>…] - ETA: 0s - loss: 0.1148
1050/1149 [==========================>…] - ETA: 0s - loss: 0.4068
1120/1149 [============================>.] - ETA: 0s - loss: 0.1229
 800/1148 [==================>…] - ETA: 0s - loss: 0.0888
 640/1149 [==============>…] - ETA: 0s - loss: 0.1275
1149/1149 [=============================] - 1s 556us/step - loss: 0.1223
Epoch 10/10

   5/1149 […] - ETA: 0s - loss: 0.1621
 180/1149 [===>…] - ETA: 0s - loss: 0.2168
1075/1149 [===========================>..] - ETA: 0s - loss: 0.1884
 390/1149 [=========>…] - ETA: 0s - loss: 0.1181
 370/1148 [========>…] - ETA: 0s - loss: 0.1068
1149/1149 [=============================] - 1s 535us/step - loss: 0.4108

 900/1148 [=====================>…] - ETA: 0s - loss: 0.0856
 735/1149 [==================>…] - ETA: 0s - loss: 0.1247Epoch 10/15

   5/1149 […] - ETA: 0s - loss: 0.3581
  95/1149 [=>…] - ETA: 0s - loss: 0.0998
 280/1149 [======>…] - ETA: 0s - loss: 0.1807
1149/1149 [=============================] - 1s 586us/step - loss: 0.1948

 485/1149 [==========>…] - ETA: 0s - loss: 0.1164Epoch 5/15

   5/1149 […] - ETA: 0s - loss: 0.1058
 470/1148 [==========>…] - ETA: 0s - loss: 0.1052
 100/1149 [=>…] - ETA: 0s - loss: 0.6943
1015/1148 [======================>…] - ETA: 0s - loss: 0.0882
 830/1149 [===================>…] - ETA: 0s - loss: 0.1230
 375/1149 [========>…] - ETA: 0s - loss: 0.1715
 175/1149 [===>…] - ETA: 0s - loss: 0.1021
 570/1149 [=============>…] - ETA: 0s - loss: 0.1331
  85/1149 [=>…] - ETA: 0s - loss: 0.1387
 580/1148 [=============>…] - ETA: 0s - loss: 0.1059
```

```
 185/1149 [===>…] - ETA: 0s - loss: 0.6062
 915/1149 [======================>…] - ETA: 0s - loss: 0.1268
1130/1148 [=============================>.] - ETA: 0s - loss: 0.0866
1148/1148 [==============================] - 1s 553us/step - loss: 0.0867
Epoch 10/15

   5/1148 […] - ETA: 0s - loss: 0.0220
 255/1149 [=====>…] - ETA: 0s - loss: 0.1085
 470/1149 [==========>…] - ETA: 0s - loss: 0.2058
 665/1149 [===============>…] - ETA: 0s - loss: 0.1297
 155/1149 [===>…] - ETA: 0s - loss: 0.1847
 685/1148 [===============>…] - ETA: 0s - loss: 0.1029
 285/1149 [======>…] - ETA: 0s - loss: 0.5183
1005/1149 [=======================>…] - ETA: 0s - loss: 0.1240
  95/1148 [=>…] - ETA: 0s - loss: 0.0754
 345/1149 [=======>…] - ETA: 0s - loss: 0.1112
 570/1149 [============>…] - ETA: 0s - loss: 0.1995
 775/1149 [==================>…] - ETA: 0s - loss: 0.1275
 785/1148 [==================>…] - ETA: 0s - loss: 0.1038
 230/1149 [=====>…] - ETA: 0s - loss: 0.2155
 380/1149 [========>…] - ETA: 0s - loss: 0.4622
1105/1149 [==========================>..] - ETA: 0s - loss: 0.1260
 190/1148 [===>…] - ETA: 0s - loss: 0.0852
 445/1149 [=========>…] - ETA: 0s - loss: 0.1129
 665/1149 [===============>…] - ETA: 0s - loss: 0.1917
1149/1149 [==============================] - 1s 557us/step - loss: 0.1242
Epoch 10/15

   5/1149 […] - ETA: 0s - loss: 0.0471
 875/1149 [====================>…] - ETA: 0s - loss: 0.1264
 875/1148 [====================>…] - ETA: 0s - loss: 0.1005
 320/1149 [=======>…] - ETA: 0s - loss: 0.2152
 475/1149 [==========>…] - ETA: 0s - loss: 0.4471
 270/1148 [======>…] - ETA: 0s - loss: 0.0886
 540/1149 [============>…] - ETA: 0s - loss: 0.1206
 765/1149 [==================>…] - ETA: 0s - loss: 0.1799
 115/1149 [==>…] - ETA: 0s - loss: 0.1401
 960/1149 [=======================>…] - ETA: 0s - loss: 0.1333
 420/1149 [=========>…] - ETA: 0s - loss: 0.1950
 950/1148 [======================>…] - ETA: 0s - loss: 0.1010
 570/1149 [============>…] - ETA: 0s - loss: 0.3989
 340/1148 [=======>…] - ETA: 0s - loss: 0.0850
 620/1149 [===============>…] - ETA: 0s - loss: 0.1246
 880/1149 [====================>…] - ETA: 0s - loss: 0.1724
 220/1149 [====>…] - ETA: 0s - loss: 0.1432
1045/1149 [=========================>…] - ETA: 0s - loss: 0.1323
 535/1149 [============>…] - ETA: 0s - loss: 0.1891
1035/1148 [=========================>…] - ETA: 0s - loss: 0.1028
```

```
 655/1149 [================>…] - ETA: 0s - loss: 0.4072
 430/1148 [=========>…] - ETA: 0s - loss: 0.0839
 715/1149 [================>…] - ETA: 0s - loss: 0.1292
 975/1149 [=======================>…] - ETA: 0s - loss: 0.1656
 305/1149 [======>…] - ETA: 0s - loss: 0.1306
1145/1149 [============================>.] - ETA: 0s - loss: 0.1296
1149/1149 [==============================] - 1s 537us/step - loss: 0.1293


 620/1149 [==============>…] - ETA: 0s - loss: 0.1871Epoch 6/15


   5/1149 […] - ETA: 0s - loss: 0.0406
1148/1148 [==============================] - 1s 536us/step - loss: 0.0995
Epoch 5/20


   5/1148 […] - ETA: 0s - loss: 0.0345
 745/1149 [==================>…] - ETA: 0s - loss: 0.4151
 800/1149 [==================>…] - ETA: 0s - loss: 0.1254
 515/1148 [===========>…] - ETA: 0s - loss: 0.0871
1075/1149 [==========================>..] - ETA: 0s - loss: 0.1591
 395/1149 [========>…] - ETA: 0s - loss: 0.1237
 705/1149 [================>…] - ETA: 0s - loss: 0.1839
 115/1149 [==>…] - ETA: 0s - loss: 0.0942
 105/1148 [=>…] - ETA: 0s - loss: 0.1337
 835/1149 [===================>…] - ETA: 0s - loss: 0.4007
1149/1149 [==============================] - 1s 529us/step - loss: 0.1672


 885/1149 [=====================>…] - ETA: 0s - loss: 0.1239
 615/1148 [==============>…] - ETA: 0s - loss: 0.0864
 490/1149 [==========>…] - ETA: 0s - loss: 0.1215
 775/1149 [==================>…] - ETA: 0s - loss: 0.1844
 195/1148 [====>…] - ETA: 0s - loss: 0.1126
 200/1149 [====>…] - ETA: 0s - loss: 0.0924
 900/1149 [=====================>…] - ETA: 0s - loss: 0.3905
 960/1149 [=======================>…] - ETA: 0s - loss: 0.1225
 710/1148 [=================>…] - ETA: 0s - loss: 0.0894
 590/1149 [=============>…] - ETA: 0s - loss: 0.1168
 860/1149 [====================>…] - ETA: 0s - loss: 0.1796
 280/1149 [======>…] - ETA: 0s - loss: 0.1080
 285/1148 [======>…] - ETA: 0s - loss: 0.1057
 990/1149 [=======================>…] - ETA: 0s - loss: 0.3945
1080/1149 [===========================>..] - ETA: 0s - loss: 0.1186
 805/1148 [===================>…] - ETA: 0s - loss: 0.0879
 705/1149 [================>…] - ETA: 0s - loss: 0.1203
 960/1149 [=======================>…] - ETA: 0s - loss: 0.1797
 375/1149 [=======>…] - ETA: 0s - loss: 0.1107
 375/1148 [=======>…] - ETA: 0s - loss: 0.1021
1090/1149 [===========================>..] - ETA: 0s - loss: 0.3842
1149/1149 [==============================] - 1s 562us/step - loss: 0.1192
```

```
1149/1149 [==============================] - 1s 557us/step - loss: 0.3774

 915/1148 [=====================>…] - ETA: 0s - loss: 0.0876Epoch 11/15

    5/1149 […] - ETA: 0s - loss: 0.0588
 805/1149 [===================>…] - ETA: 0s - loss: 0.1155
1065/1149 [=========================>…] - ETA: 0s - loss: 0.1830
 495/1149 [==========>…] - ETA: 0s - loss: 0.1233
 470/1148 [==========>…] - ETA: 0s - loss: 0.1036
1149/1149 [==============================] - 1s 569us/step - loss: 0.1807
Epoch 6/15

    5/1149 […] - ETA: 0s - loss: 0.1015
 995/1148 [=========================>…] - ETA: 0s - loss: 0.0878
 880/1149 [=====================>…] - ETA: 0s - loss: 0.1154
 105/1149 [=>…] - ETA: 0s - loss: 0.4302
 625/1149 [==============>…] - ETA: 0s - loss: 0.1203
 580/1148 [==============>…] - ETA: 0s - loss: 0.0979
 110/1149 [=>…] - ETA: 0s - loss: 0.1446
1090/1148 [==========================>..] - ETA: 0s - loss: 0.0864
 975/1149 [=========================>…] - ETA: 0s - loss: 0.1230
 205/1149 [====>…] - ETA: 0s - loss: 0.3283
 730/1149 [==================>…] - ETA: 0s - loss: 0.1253
 675/1148 [================>…] - ETA: 0s - loss: 0.0955
1148/1148 [==============================] - 1s 567us/step - loss: 0.0859
Epoch 11/15

    5/1148 […] - ETA: 0s - loss: 0.0755
 220/1149 [====>…] - ETA: 0s - loss: 0.1476
1090/1149 [==========================>..] - ETA: 0s - loss: 0.1198
 320/1149 [=======>…] - ETA: 0s - loss: 0.3780
 830/1149 [====================>…] - ETA: 0s - loss: 0.1368
 765/1148 [==================>…] - ETA: 0s - loss: 0.0994
 115/1148 [==>…] - ETA: 0s - loss: 0.0962
1149/1149 [==============================] - 1s 519us/step - loss: 0.1221
Epoch 11/15

    5/1149 […] - ETA: 0s - loss: 0.1207
 335/1149 [=======>…] - ETA: 0s - loss: 0.1640
 425/1149 [=========>…] - ETA: 0s - loss: 0.3673
 935/1149 [=====================>…] - ETA: 0s - loss: 0.1329
 855/1148 [=====================>…] - ETA: 0s - loss: 0.0975
 225/1148 [====>…] - ETA: 0s - loss: 0.0824
 105/1149 [=>…] - ETA: 0s - loss: 0.0967
 450/1149 [=========>…] - ETA: 0s - loss: 0.1675
 535/1149 [============>…] - ETA: 0s - loss: 0.3446
1030/1149 [========================>…] - ETA: 0s - loss: 0.1292
```

```
 955/1148 [=======================>…] - ETA: 0s - loss: 0.0961
 310/1148 [=======>…] - ETA: 0s - loss: 0.0806
 185/1149 [===>…] - ETA: 0s - loss: 0.0940
 560/1149 [=============>…] - ETA: 0s - loss: 0.1671
 640/1149 [==============>…] - ETA: 0s - loss: 0.3693
1130/1149 [============================>.] - ETA: 0s - loss: 0.1257
1065/1148 [=========================>…] - ETA: 0s - loss: 0.0967
 400/1148 [=========>…] - ETA: 0s - loss: 0.0784
1149/1149 [=============================] - 1s 506us/step - loss: 0.1254
Epoch 7/15

   5/1149 […] - ETA: 1s - loss: 0.0105
 270/1149 [======>…] - ETA: 0s - loss: 0.1055
 640/1149 [==============>…] - ETA: 0s - loss: 0.1687
 720/1149 [=================>…] - ETA: 0s - loss: 0.3800
1148/1148 [=============================] - 1s 527us/step - loss: 0.0951
Epoch 6/20

   5/1148 […] - ETA: 0s - loss: 0.0630
 505/1148 [===========>…] - ETA: 0s - loss: 0.0747
  95/1149 [=>…] - ETA: 0s - loss: 0.0991
 365/1149 [========>…] - ETA: 0s - loss: 0.1109
 710/1149 [=================>…] - ETA: 0s - loss: 0.1645
 825/1149 [====================>…] - ETA: 0s - loss: 0.3565
 105/1148 [=>…] - ETA: 0s - loss: 0.0734
 630/1148 [==============>…] - ETA: 0s - loss: 0.0781
 185/1149 [===>…] - ETA: 0s - loss: 0.1322
 460/1149 [==========>…] - ETA: 0s - loss: 0.1064
 780/1149 [==================>…] - ETA: 0s - loss: 0.1621
 920/1149 [======================>…] - ETA: 0s - loss: 0.3586
 225/1148 [====>…] - ETA: 0s - loss: 0.0791
 730/1148 [==================>…] - ETA: 0s - loss: 0.0802
 275/1149 [======>…] - ETA: 0s - loss: 0.1224
 550/1149 [=============>…] - ETA: 0s - loss: 0.1168
 870/1149 [=====================>…] - ETA: 0s - loss: 0.1707
1035/1149 [=========================>…] - ETA: 0s - loss: 0.3585
 325/1148 [=======>…] - ETA: 0s - loss: 0.0826
 825/1148 [====================>…] - ETA: 0s - loss: 0.0794
 650/1149 [==============>…] - ETA: 0s - loss: 0.1228
 350/1149 [=======>…] - ETA: 0s - loss: 0.1199
 955/1149 [======================>…] - ETA: 0s - loss: 0.1696
1140/1149 [============================>.] - ETA: 0s - loss: 0.3512
1149/1149 [=============================] - 1s 501us/step - loss: 0.3488

 415/1148 [========>…] - ETA: 0s - loss: 0.0887Epoch 12/15

   5/1149 […] - ETA: 0s - loss: 0.1336
 910/1148 [=====================>…] - ETA: 0s - loss: 0.0851
```

```
 750/1149 [==================>…] - ETA: 0s - loss: 0.1195
 430/1149 [==========>…] - ETA: 0s - loss: 0.1330
1035/1149 [===========================>…] - ETA: 0s - loss: 0.1711
 495/1148 [===========>…] - ETA: 0s - loss: 0.0863
  90/1149 [=>…] - ETA: 0s - loss: 0.5558
 995/1148 [=========================>…] - ETA: 0s - loss: 0.0846
 850/1149 [=====================>…] - ETA: 0s - loss: 0.1272
 525/1149 [============>…] - ETA: 0s - loss: 0.1447
1115/1149 [=============================>.] - ETA: 0s - loss: 0.1690
 585/1148 [==============>…] - ETA: 0s - loss: 0.0842
 180/1149 [===>…] - ETA: 0s - loss: 0.3472
1085/1148 [==========================>..] - ETA: 0s - loss: 0.0850
1149/1149 [==============================] - 1s 560us/step - loss: 0.1680
Epoch 7/15

   5/1149 […] - ETA: 1s - loss: 0.0525
 960/1149 [=======================>…] - ETA: 0s - loss: 0.1292
 610/1149 [==============>…] - ETA: 0s - loss: 0.1370
1148/1148 [==============================] - 1s 519us/step - loss: 0.0851
Epoch 12/15

   5/1148 […] - ETA: 0s - loss: 0.0339
 670/1148 [================>…] - ETA: 0s - loss: 0.0842
 275/1149 [======>…] - ETA: 0s - loss: 0.2663
  95/1149 [=>…] - ETA: 0s - loss: 0.1041
1045/1149 [==========================>…] - ETA: 0s - loss: 0.1266Epoch 1/20

   5/1149 […] - ETA: 1:35 - loss: 1.5515
 700/1149 [=================>…] - ETA: 0s - loss: 0.1341
  85/1148 [=>…] - ETA: 0s - loss: 0.0777
 770/1148 [==================>…] - ETA: 0s - loss: 0.0867
 385/1149 [=========>…] - ETA: 0s - loss: 0.3119
 180/1149 [===>…] - ETA: 0s - loss: 0.1538
1140/1149 [=============================>.] - ETA: 0s - loss: 0.1225
1149/1149 [==============================] - 1s 543us/step - loss: 0.1222

 800/1149 [=================>…] - ETA: 0s - loss: 0.1305Epoch 12/15

   5/1149 […] - ETA: 0s - loss: 0.1951
  55/1149 [>…] - ETA: 9s - loss: 0.8442
 175/1148 [===>…] - ETA: 0s - loss: 0.0725
 880/1148 [===================>…] - ETA: 0s - loss: 0.0917
 500/1149 [============>…] - ETA: 0s - loss: 0.3127
 275/1149 [======>…] - ETA: 0s - loss: 0.1487
 900/1149 [===================>…] - ETA: 0s - loss: 0.1277
 105/1149 [=>…] - ETA: 0s - loss: 0.1814
 115/1149 [==>…] - ETA: 4s - loss: 0.9598
 265/1148 [=====>…] - ETA: 0s - loss: 0.0807
```

```
 975/1148 [========================>…] - ETA: 0s - loss: 0.0935
 600/1149 [=============>…] - ETA: 0s - loss: 0.2967
 375/1149 [========>…] - ETA: 0s - loss: 0.1534
 210/1149 [====>…] - ETA: 0s - loss: 0.1504
1000/1149 [========================>…] - ETA: 0s - loss: 0.1268
 170/1149 [===>…] - ETA: 3s - loss: 0.8764
 340/1148 [=======>…] - ETA: 0s - loss: 0.0800
1090/1148 [==========================>..] - ETA: 0s - loss: 0.0926
 695/1149 [=================>…] - ETA: 0s - loss: 0.3440
 460/1149 [==========>…] - ETA: 0s - loss: 0.1591
1148/1148 [=============================] - 1s 516us/step - loss: 0.0914
Epoch 7/20

   5/1148 […] - ETA: 0s - loss: 0.0758
1095/1149 [===========================>..] - ETA: 0s - loss: 0.1230
 335/1149 [=======>…] - ETA: 0s - loss: 0.1213
 240/1149 [=====>…] - ETA: 2s - loss: 1.0322
 430/1148 [=========>…] - ETA: 0s - loss: 0.0798
 800/1149 [==================>…] - ETA: 0s - loss: 0.3332
1149/1149 [=============================] - 1s 570us/step - loss: 0.1219
Epoch 8/15

   5/1149 […] - ETA: 0s - loss: 0.1179
 560/1149 [=============>…] - ETA: 0s - loss: 0.1655
 100/1148 [=>…] - ETA: 0s - loss: 0.0838
 440/1149 [=========>…] - ETA: 0s - loss: 0.1222
 310/1149 [=======>…] - ETA: 1s - loss: 1.1120
 515/1148 [============>…] - ETA: 0s - loss: 0.0804
 915/1149 [======================>…] - ETA: 0s - loss: 0.3425
 115/1149 [==>…] - ETA: 0s - loss: 0.1996
 655/1149 [===============>…] - ETA: 0s - loss: 0.1666
 200/1148 [====>…] - ETA: 0s - loss: 0.0812
 540/1149 [=============>…] - ETA: 0s - loss: 0.1199
 370/1149 [=======>…] - ETA: 1s - loss: 1.1938
 595/1148 [=============>…] - ETA: 0s - loss: 0.0792
1020/1149 [========================>…] - ETA: 0s - loss: 0.3348
 220/1149 [====>…] - ETA: 0s - loss: 0.1465
 750/1149 [=================>…] - ETA: 0s - loss: 0.1732
 295/1148 [======>…] - ETA: 0s - loss: 0.0846Epoch 1/20

   5/1149 […] - ETA: 1:37 - loss: 0.5084
 645/1149 [==============>…] - ETA: 0s - loss: 0.1186
 415/1149 [=========>…] - ETA: 1s - loss: 1.1742
 700/1148 [================>…] - ETA: 0s - loss: 0.0781
1125/1149 [===========================>.] - ETA: 0s - loss: 0.3284
 320/1149 [=======>…] - ETA: 0s - loss: 0.1357
 860/1149 [=====================>…] - ETA: 0s - loss: 0.1685
1149/1149 [=============================] - 1s 507us/step - loss: 0.3240
```

```
Epoch 13/15

   5/1149 […] - ETA: 0s - loss: 0.2628
 380/1148 [=======>…] - ETA: 0s - loss: 0.0921
 745/1149 [=================>…] - ETA: 0s - loss: 0.1210
  45/1149 [>…] - ETA: 11s - loss: 0.9913
 495/1149 [==========>…] - ETA: 1s - loss: 1.1224
 790/1148 [==================>…] - ETA: 0s - loss: 0.0791
 425/1149 [=========>…] - ETA: 0s - loss: 0.1381
 955/1149 [======================>…] - ETA: 0s - loss: 0.1680
 100/1149 [=>…] - ETA: 0s - loss: 0.3431
 470/1148 [==========>…] - ETA: 0s - loss: 0.0925
 845/1149 [=====================>…] - ETA: 0s - loss: 0.1211
  95/1149 [=>…] - ETA: 5s - loss: 0.9070
 575/1149 [=============>…] - ETA: 0s - loss: 1.1397
 885/1148 [======================>…] - ETA: 0s - loss: 0.0830
 535/1149 [===========>…] - ETA: 0s - loss: 0.1302
1050/1149 [==========================>…] - ETA: 0s - loss: 0.1628
 200/1149 [====>…] - ETA: 0s - loss: 0.3820
 585/1148 [=============>…] - ETA: 0s - loss: 0.0907
 945/1149 [======================>…] - ETA: 0s - loss: 0.1201
 140/1149 [==>…] - ETA: 4s - loss: 0.9143
 640/1149 [==============>…] - ETA: 0s - loss: 1.2026
 985/1148 [=======================>…] - ETA: 0s - loss: 0.0829
 640/1149 [==============>…] - ETA: 0s - loss: 0.1287
1140/1149 [============================>.] - ETA: 0s - loss: 0.1611
 300/1149 [======>…] - ETA: 0s - loss: 0.3474
1149/1149 [=============================] - 1s 545us/step - loss: 0.1603


 695/1148 [================>…] - ETA: 0s - loss: 0.0931Epoch 8/15

   5/1149 […] - ETA: 0s - loss: 0.0221
1040/1149 [=========================>…] - ETA: 0s - loss: 0.1207
 190/1149 [===>…] - ETA: 3s - loss: 0.8470
 720/1149 [================>…] - ETA: 0s - loss: 1.1548
1080/1148 [===========================>..] - ETA: 0s - loss: 0.0840
 740/1149 [=================>…] - ETA: 0s - loss: 0.1241
 395/1149 [========>…] - ETA: 0s - loss: 0.3370
 805/1148 [==================>…] - ETA: 0s - loss: 0.0900
 120/1149 [==>…] - ETA: 0s - loss: 0.1944
1148/1148 [=============================] - 1s 566us/step - loss: 0.0847


1145/1149 [===========================>.] - ETA: 0s - loss: 0.1191Epoch 13/15

   5/1148 […] - ETA: 0s - loss: 0.0302
1149/1149 [=============================] - 1s 494us/step - loss: 0.1188
Epoch 13/15
```

```
   5/1149 […] - ETA: 0s - loss: 0.1467
 790/1149 [===================>…] - ETA: 0s - loss: 1.1251
 240/1149 [=====>…] - ETA: 2s - loss: 0.8584
 845/1149 [====================>…] - ETA: 0s - loss: 0.1273
 485/1149 [==========>…] - ETA: 0s - loss: 0.3131
 900/1148 [=====================>…] - ETA: 0s - loss: 0.0888
 230/1149 [=====>…] - ETA: 0s - loss: 0.1922
 110/1148 [=>…] - ETA: 0s - loss: 0.1016
 105/1149 [=>…] - ETA: 0s - loss: 0.1004
 860/1149 [====================>…] - ETA: 0s - loss: 1.1656
 315/1149 [=======>…] - ETA: 1s - loss: 0.9895
 935/1149 [======================>…] - ETA: 0s - loss: 0.1244
 580/1149 [=============>…] - ETA: 0s - loss: 0.3085
1000/1148 [========================>…] - ETA: 0s - loss: 0.0903
 330/1149 [=======>…] - ETA: 0s - loss: 0.1792
 200/1148 [====>…] - ETA: 0s - loss: 0.0884
 195/1149 [====>…] - ETA: 0s - loss: 0.1177
 955/1149 [======================>…] - ETA: 0s - loss: 1.1123
 385/1149 [========>…] - ETA: 1s - loss: 1.0134
1045/1149 [=========================>…] - ETA: 0s - loss: 0.1243
 680/1149 [================>…] - ETA: 0s - loss: 0.3287
1095/1148 [============================>..] - ETA: 0s - loss: 0.0892
 415/1149 [=========>…] - ETA: 0s - loss: 0.1750
 290/1148 [======>…] - ETA: 0s - loss: 0.0847
1045/1149 [=========================>…] - ETA: 0s - loss: 1.0742
 295/1149 [======>…] - ETA: 0s - loss: 0.1130
 445/1149 [=========>…] - ETA: 1s - loss: 1.0310
1148/1148 [=============================] - 1s 516us/step - loss: 0.0898


1149/1149 [=============================] - 1s 488us/step - loss: 0.1207
Epoch 8/20


   5/1148 […] - ETA: 0s - loss: 0.1518Epoch 9/15


   5/1149 […] - ETA: 0s - loss: 0.0625
 780/1149 [===================>…] - ETA: 0s - loss: 0.3510
 505/1149 [===========>…] - ETA: 0s - loss: 0.1648
 390/1148 [=========>…] - ETA: 0s - loss: 0.0852
1145/1149 [============================>.] - ETA: 0s - loss: 1.0417
 375/1149 [=======>…] - ETA: 0s - loss: 0.1129
1149/1149 [=============================] - 1s 1ms/step - loss: 1.0382
Epoch 2/20


   5/1149 […] - ETA: 0s - loss: 0.3357
 515/1149 [===========>…] - ETA: 1s - loss: 1.0167
 105/1148 [=>…] - ETA: 0s - loss: 0.1398
 115/1149 [==>…] - ETA: 0s - loss: 0.0802
 880/1149 [====================>…] - ETA: 0s - loss: 0.3383
```

```
 605/1149 [==============>…] – ETA: 0s – loss: 0.1605
 480/1148 [==========>…] – ETA: 0s – loss: 0.0922
 455/1149 [=========>…] – ETA: 0s – loss: 0.1077
 575/1149 [==============>…] – ETA: 0s – loss: 1.0092
 130/1149 [==>…] – ETA: 0s – loss: 0.7275
 195/1148 [====>…] – ETA: 0s – loss: 0.1207
 215/1149 [====>…] – ETA: 0s – loss: 0.1148
 980/1149 [=======================>…] – ETA: 0s – loss: 0.3251
 700/1149 [=================>…] – ETA: 0s – loss: 0.1569
 585/1148 [==============>…] – ETA: 0s – loss: 0.0915
 535/1149 [============>…] – ETA: 0s – loss: 0.1081
 235/1149 [=====>…] – ETA: 0s – loss: 0.7514
 660/1149 [================>…] – ETA: 0s – loss: 1.0416
 285/1148 [======>…] – ETA: 0s – loss: 0.1083
 300/1149 [======>…] – ETA: 0s – loss: 0.1106
1085/1149 [===========================>..] – ETA: 0s – loss: 0.3106
 795/1149 [===================>…] – ETA: 0s – loss: 0.1563
 670/1148 [================>…] – ETA: 0s – loss: 0.0915
 615/1149 [==============>…] – ETA: 0s – loss: 0.1052
 775/1149 [===================>…] – ETA: 0s – loss: 1.0353
 285/1149 [======>…] – ETA: 0s – loss: 0.7051
 395/1149 [=========>…] – ETA: 0s – loss: 0.1131
 385/1148 [=========>…] – ETA: 0s – loss: 0.0997
1149/1149 [=============================] – 1s 530us/step – loss: 0.3021
Epoch 14/15

   5/1149 […] – ETA: 0s – loss: 0.0673
 885/1149 [=====================>…] – ETA: 0s – loss: 0.1593
 755/1148 [===================>…] – ETA: 0s – loss: 0.0889
 710/1149 [=================>…] – ETA: 0s – loss: 0.1045
 900/1149 [=====================>…] – ETA: 0s – loss: 1.0166
 480/1148 [==========>…] – ETA: 0s – loss: 0.0926
 495/1149 [==========>…] – ETA: 0s – loss: 0.1095
 100/1149 [=>…] – ETA: 0s – loss: 0.3279
 340/1149 [=======>…] – ETA: 0s – loss: 0.8005
 980/1149 [=======================>…] – ETA: 0s – loss: 0.1564
 835/1148 [===================>…] – ETA: 0s – loss: 0.0866
 815/1149 [===================>…] – ETA: 0s – loss: 0.1099
1015/1149 [========================>…] – ETA: 0s – loss: 1.0371
 590/1149 [=============>…] – ETA: 0s – loss: 0.1063
 575/1148 [=============>…] – ETA: 0s – loss: 0.0881
 190/1149 [===>…] – ETA: 0s – loss: 0.3955
 455/1149 [=========>…] – ETA: 0s – loss: 0.6830
1070/1149 [==========================>…] – ETA: 0s – loss: 0.1535
 925/1148 [======================>…] – ETA: 0s – loss: 0.0877
 905/1149 [=====================>…] – ETA: 0s – loss: 0.1149
1075/1149 [===========================>..] – ETA: 0s – loss: 1.0133
 680/1149 [==============>…] – ETA: 0s – loss: 0.1023
```

```
 665/1148 [===============>…] – ETA: 0s – loss: 0.0881
 290/1149 [======>…] – ETA: 0s – loss: 0.3861
 585/1149 [=============>…] – ETA: 0s – loss: 0.6475
1149/1149 [==============================] – 1s 531us/step – loss: 0.1533
Epoch 9/15

   5/1149 […] – ETA: 0s – loss: 0.1552
1025/1148 [========================>…] – ETA: 0s – loss: 0.0847
1005/1149 [========================>…] – ETA: 0s – loss: 0.1245
1120/1149 [=============================>.] – ETA: 0s – loss: 1.0060
 770/1149 [==================>…] – ETA: 0s – loss: 0.1016
 750/1148 [==================>…] – ETA: 0s – loss: 0.0897
 375/1149 [========>…] – ETA: 0s – loss: 0.3797
1149/1149 [==============================] – 1s 1ms/step – loss: 1.0178

 700/1149 [================>…] – ETA: 0s – loss: 0.6248Epoch 2/20

   5/1149 […] – ETA: 0s – loss: 1.3898
  90/1149 [=>…] – ETA: 0s – loss: 0.1231
1110/1148 [============================>.] – ETA: 0s – loss: 0.0830
1080/1149 [===========================>..] – ETA: 0s – loss: 0.1222
 905/1149 [=====================>…] – ETA: 0s – loss: 0.1012
 850/1148 [====================>…] – ETA: 0s – loss: 0.0899
1148/1148 [==============================] – 1s 563us/step – loss: 0.0834
Epoch 14/15

   5/1148 […] – ETA: 0s – loss: 0.0120
 465/1149 [==========>…] – ETA: 0s – loss: 0.3555
 780/1149 [==================>…] – ETA: 0s – loss: 0.6105
 110/1149 [=>…] – ETA: 0s – loss: 0.7291
 175/1149 [===>…] – ETA: 0s – loss: 0.1131
1149/1149 [==============================] – 1s 581us/step – loss: 0.1199
Epoch 14/15

   5/1149 […] – ETA: 0s – loss: 0.1709
1000/1149 [========================>…] – ETA: 0s – loss: 0.1036
 950/1148 [======================>…] – ETA: 0s – loss: 0.0879
 100/1148 [=>…] – ETA: 0s – loss: 0.0995
 560/1149 [============>…] – ETA: 0s – loss: 0.3335
 865/1149 [====================>…] – ETA: 0s – loss: 0.6045
 225/1149 [====>…] – ETA: 0s – loss: 0.5288
 265/1149 [=====>…] – ETA: 0s – loss: 0.1215
  95/1149 [=>…] – ETA: 0s – loss: 0.1796
1090/1149 [===========================>..] – ETA: 0s – loss: 0.1176
1035/1148 [=========================>…] – ETA: 0s – loss: 0.0884
 640/1149 [==============>…] – ETA: 0s – loss: 0.3198
 200/1148 [====>…] – ETA: 0s – loss: 0.0955
 955/1149 [======================>…] – ETA: 0s – loss: 0.6048
```

```
 315/1149 [=======>…] - ETA: 0s - loss: 0.4629
 345/1149 [========>…] - ETA: 0s - loss: 0.1318
 160/1149 [===>…] - ETA: 0s - loss: 0.1459
1135/1149 [===========================>.] - ETA: 0s - loss: 0.1185
 685/1149 [===============>…] - ETA: 0s - loss: 0.3043
1085/1148 [===========================>..] - ETA: 0s - loss: 0.0877
 245/1148 [=====>…] - ETA: 0s - loss: 0.0960
 365/1149 [========>…] - ETA: 0s - loss: 0.4243
1010/1149 [=======================>…] - ETA: 0s - loss: 0.5897
1149/1149 [=============================] - 1s 550us/step - loss: 0.1186
Epoch 10/15

   5/1149 […] - ETA: 0s - loss: 0.0336
 395/1149 [========>…] - ETA: 0s - loss: 0.1254
 235/1149 [=====>…] - ETA: 0s - loss: 0.1462
1148/1148 [=============================] - 1s 581us/step - loss: 0.0871
Epoch 9/20

   5/1148 […] - ETA: 1s - loss: 0.0384
 335/1148 [=======>…] - ETA: 0s - loss: 0.0947
 780/1149 [==================>…] - ETA: 0s - loss: 0.2868
 450/1149 [==========>…] - ETA: 0s - loss: 0.3825
1090/1149 [==========================>..] - ETA: 0s - loss: 0.5699
  95/1149 [=>…] - ETA: 0s - loss: 0.0830
 480/1149 [==========>…] - ETA: 0s - loss: 0.1287
 335/1149 [=======>…] - ETA: 0s - loss: 0.1294
1149/1149 [=============================] - 1s 589us/step - loss: 0.5577
Epoch 3/20

   5/1149 […] - ETA: 0s - loss: 0.1529
  90/1148 [=>…] - ETA: 0s - loss: 0.0805
 880/1149 [====================>…] - ETA: 0s - loss: 0.2797
 425/1148 [=========>…] - ETA: 0s - loss: 0.0909
 540/1149 [============>…] - ETA: 0s - loss: 0.3491
 190/1149 [===>…] - ETA: 0s - loss: 0.0785
 570/1149 [============>…] - ETA: 0s - loss: 0.1302
 435/1149 [=========>…] - ETA: 0s - loss: 0.1208
  95/1149 [=>…] - ETA: 0s - loss: 0.3292
 175/1148 [===>…] - ETA: 0s - loss: 0.0815
 960/1149 [======================>…] - ETA: 0s - loss: 0.3045
 510/1148 [===========>…] - ETA: 0s - loss: 0.0954
 635/1149 [==============>…] - ETA: 0s - loss: 0.3411
 680/1149 [===============>…] - ETA: 0s - loss: 0.1295
 285/1149 [======>…] - ETA: 0s - loss: 0.0893
 525/1149 [===========>…] - ETA: 0s - loss: 0.1139
 185/1149 [===>…] - ETA: 0s - loss: 0.3053
 270/1148 [======>…] - ETA: 0s - loss: 0.0810
1070/1149 [=========================>…] - ETA: 0s - loss: 0.2889
```

```
 590/1148 [===============>…] - ETA: 0s - loss: 0.0919
 725/1149 [=================>…] - ETA: 0s - loss: 0.3174
 785/1149 [==================>…] - ETA: 0s - loss: 0.1391
 370/1149 [========>…] - ETA: 0s - loss: 0.0979
 610/1149 [==============>…] - ETA: 0s - loss: 0.1111
 275/1149 [======>…] - ETA: 0s - loss: 0.2829
1149/1149 [==============================] - 1s 575us/step - loss: 0.2834
Epoch 15/15

   5/1149 [.…] - ETA: 0s - loss: 0.0112
 370/1148 [========>…] - ETA: 0s - loss: 0.0869
 830/1149 [===================>…] - ETA: 0s - loss: 0.3022
 670/1148 [================>…] - ETA: 0s - loss: 0.0876
 885/1149 [=====================>…] - ETA: 0s - loss: 0.1476
 455/1149 [==========>…] - ETA: 0s - loss: 0.0986
 705/1149 [=================>…] - ETA: 0s - loss: 0.1098
 360/1149 [========>…] - ETA: 0s - loss: 0.2720
 115/1149 [==>…] - ETA: 0s - loss: 0.2520
 465/1148 [==========>…] - ETA: 0s - loss: 0.0804
 930/1149 [======================>…] - ETA: 0s - loss: 0.2888
 755/1148 [=================>…] - ETA: 0s - loss: 0.0857
 980/1149 [=======================>…] - ETA: 0s - loss: 0.1456
 540/1149 [=============>…] - ETA: 0s - loss: 0.0996
 800/1149 [==================>…] - ETA: 0s - loss: 0.1124
 440/1149 [==========>…] - ETA: 0s - loss: 0.2884
 200/1149 [====>…] - ETA: 0s - loss: 0.3275
 565/1148 [=============>…] - ETA: 0s - loss: 0.0803
1025/1149 [=========================>…] - ETA: 0s - loss: 0.2727
 835/1148 [===================>…] - ETA: 0s - loss: 0.0861
1075/1149 [============================>..] - ETA: 0s - loss: 0.1432
 630/1149 [==============>…] - ETA: 0s - loss: 0.1108
 890/1149 [=====================>…] - ETA: 0s - loss: 0.1108
 535/1149 [===========>…] - ETA: 0s - loss: 0.2814
 280/1149 [======>…] - ETA: 0s - loss: 0.2752
 660/1148 [================>…] - ETA: 0s - loss: 0.0803
1149/1149 [==============================] - 1s 578us/step - loss: 0.1494

 930/1148 [======================>…] - ETA: 0s - loss: 0.0850Epoch 10/15

   5/1149 [.…] - ETA: 0s - loss: 0.0449
1130/1149 [=============================>.] - ETA: 0s - loss: 0.2637
 725/1149 [=================>…] - ETA: 0s - loss: 0.1169
1149/1149 [==============================] - 1s 549us/step - loss: 0.2605
Epoch 3/20

   5/1149 [.…] - ETA: 1s - loss: 0.1957
 975/1149 [=======================>…] - ETA: 0s - loss: 0.1180
 635/1149 [==============>…] - ETA: 0s - loss: 0.2687
```

```
 375/1149 [========>…] – ETA: 0s – loss: 0.3121
 755/1148 [==================>…] – ETA: 0s – loss: 0.0803
 100/1149 [=>…] – ETA: 0s – loss: 0.1035
1010/1148 [========================>…] – ETA: 0s – loss: 0.0830
 830/1149 [====================>…] – ETA: 0s – loss: 0.1185
  95/1149 [=>…] – ETA: 0s – loss: 0.1438
1075/1149 [===========================>..] – ETA: 0s – loss: 0.1201
 740/1149 [==================>…] – ETA: 0s – loss: 0.2526
 460/1149 [==========>…] – ETA: 0s – loss: 0.2856
 845/1148 [=====================>…] – ETA: 0s – loss: 0.0803
 185/1149 [===>…] – ETA: 0s – loss: 0.1273
1085/1148 [==========================>..] – ETA: 0s – loss: 0.0819
1149/1149 [==============================] – 1s 571us/step – loss: 0.1183


 935/1149 [=======================>…] – ETA: 0s – loss: 0.1168Epoch 15/15


   5/1149 […] – ETA: 1s – loss: 0.2471
 180/1149 [===>…] – ETA: 0s – loss: 0.1445
 830/1149 [====================>…] – ETA: 0s – loss: 0.2465
 550/1149 [=============>…] – ETA: 0s – loss: 0.2766
1148/1148 [==============================] – 1s 625us/step – loss: 0.0828


 920/1148 [=======================>…] – ETA: 0s – loss: 0.0802Epoch 15/15


   5/1148 […] – ETA: 1s – loss: 0.1101
 255/1149 [=====>…] – ETA: 0s – loss: 0.1418
1005/1149 [========================>…] – ETA: 0s – loss: 0.1139
  95/1149 [=>…] – ETA: 0s – loss: 0.1124
 275/1149 [======>…] – ETA: 0s – loss: 0.1385
 890/1149 [======================>…] – ETA: 0s – loss: 0.2380
 635/1149 [==============>…] – ETA: 0s – loss: 0.2722
1000/1148 [========================>…] – ETA: 0s – loss: 0.0825
 100/1148 [=>…] – ETA: 0s – loss: 0.0862
 340/1149 [=======>…] – ETA: 0s – loss: 0.1435
1085/1149 [==========================>..] – ETA: 0s – loss: 0.1155
 180/1149 [===>…] – ETA: 0s – loss: 0.0969
 365/1149 [========>…] – ETA: 0s – loss: 0.1447
 945/1149 [=======================>…] – ETA: 0s – loss: 0.2315
 720/1149 [=================>…] – ETA: 0s – loss: 0.2678
 190/1148 [===>…] – ETA: 0s – loss: 0.0902
1149/1149 [==============================] – 1s 574us/step – loss: 0.1167
Epoch 11/15


   5/1149 […] – ETA: 0s – loss: 0.0152
1075/1148 [==========================>..] – ETA: 0s – loss: 0.0862
 425/1149 [==========>…] – ETA: 0s – loss: 0.1408
 270/1149 [======>…] – ETA: 0s – loss: 0.0884
 450/1149 [==========>…] – ETA: 0s – loss: 0.1480
```

```
1050/1149 [==========================>…] - ETA: 0s - loss: 0.2213
 825/1149 [====================>…] - ETA: 0s - loss: 0.2584
  85/1149 [=>…] - ETA: 0s - loss: 0.0871
 240/1148 [=====>…] - ETA: 0s - loss: 0.0868
1125/1148 [============================>.] - ETA: 0s - loss: 0.0856
 510/1149 [===========>…] - ETA: 0s - loss: 0.1345
 345/1149 [=======>…] - ETA: 0s - loss: 0.0909
 545/1149 [============>…] - ETA: 0s - loss: 0.1431
1148/1148 [=============================] - 1s 612us/step - loss: 0.0855
Epoch 10/20

   5/1148 […] - ETA: 0s - loss: 0.0652
1135/1149 [============================>.] - ETA: 0s - loss: 0.2264
 905/1149 [======================>…] - ETA: 0s - loss: 0.2518
1149/1149 [=============================] - 1s 590us/step - loss: 0.2260
Epoch 4/20

   5/1149 […] - ETA: 0s - loss: 0.0669
 290/1148 [======>…] - ETA: 0s - loss: 0.0915
 165/1149 [===>…] - ETA: 0s - loss: 0.0864
 585/1149 [==============>…] - ETA: 0s - loss: 0.1391
 430/1149 [=========>…] - ETA: 0s - loss: 0.1144
 645/1149 [===============>…] - ETA: 0s - loss: 0.1408
  60/1148 [>…] - ETA: 0s - loss: 0.0889
 985/1149 [=======================>…] - ETA: 0s - loss: 0.2510
 390/1148 [========>…] - ETA: 0s - loss: 0.0907
  80/1149 [=>…] - ETA: 0s - loss: 0.1242
 235/1149 [=====>…] - ETA: 0s - loss: 0.1155
 655/1149 [===============>…] - ETA: 0s - loss: 0.1478
 510/1149 [===========>…] - ETA: 0s - loss: 0.1115
 720/1149 [=================>…] - ETA: 0s - loss: 0.1375
 165/1148 [===>…] - ETA: 0s - loss: 0.1037
1055/1149 [=========================>…] - ETA: 0s - loss: 0.2508
 150/1149 [==>…] - ETA: 0s - loss: 0.1159
 505/1148 [===========>…] - ETA: 0s - loss: 0.0848
 290/1149 [======>…] - ETA: 0s - loss: 0.1322
 740/1149 [=================>…] - ETA: 0s - loss: 0.1515
 590/1149 [=============>…] - ETA: 0s - loss: 0.1069
 790/1149 [==================>…] - ETA: 0s - loss: 0.1395
 265/1148 [=====>…] - ETA: 0s - loss: 0.0890
1130/1149 [============================>.] - ETA: 0s - loss: 0.2680
 220/1149 [====>…] - ETA: 0s - loss: 0.1196
 600/1148 [==============>…] - ETA: 0s - loss: 0.0859
 365/1149 [========>…] - ETA: 0s - loss: 0.1209
1149/1149 [=============================] - 1s 598us/step - loss: 0.2684

 815/1149 [====================>…] - ETA: 0s - loss: 0.1520
 665/1149 [===============>…] - ETA: 0s - loss: 0.1131
```

```
 865/1149 [====================>…] - ETA: 0s - loss: 0.1367
 365/1148 [=======>…] - ETA: 0s - loss: 0.0900
 290/1149 [======>…] - ETA: 0s - loss: 0.1565
 675/1148 [================>…] - ETA: 0s - loss: 0.0838
 450/1149 [=========>…] - ETA: 0s - loss: 0.1345
 890/1149 [=====================>…] - ETA: 0s - loss: 0.1496
 735/1149 [=================>…] - ETA: 0s - loss: 0.1112
 950/1149 [======================>…] - ETA: 0s - loss: 0.1463
 445/1148 [=========>…] - ETA: 0s - loss: 0.0918
 385/1149 [========>…] - ETA: 0s - loss: 0.1458
 755/1148 [=================>…] - ETA: 0s - loss: 0.0815
 550/1149 [============>…] - ETA: 0s - loss: 0.1364
 985/1149 [=======================>…] - ETA: 0s - loss: 0.1468
 810/1149 [==================>…] - ETA: 0s - loss: 0.1070
1020/1149 [========================>…] - ETA: 0s - loss: 0.1432
 520/1148 [===========>…] - ETA: 0s - loss: 0.0888
 465/1149 [=========>…] - ETA: 0s - loss: 0.1429
 835/1148 [===================>…] - ETA: 0s - loss: 0.0853
 640/1149 [==============>…] - ETA: 0s - loss: 0.1296
1060/1149 [=========================>…] - ETA: 0s - loss: 0.1471
 910/1149 [=====================>…] - ETA: 0s - loss: 0.1102
1115/1149 [============================>.] - ETA: 0s - loss: 0.1394
 605/1148 [=============>…] - ETA: 0s - loss: 0.0862
1149/1149 [=============================] - 1s 603us/step - loss: 0.1403
Epoch 4/20

   5/1149 […] - ETA: 0s - loss: 0.2954
 550/1149 [============>…] - ETA: 0s - loss: 0.1372
 920/1148 [======================>…] - ETA: 0s - loss: 0.0843
 725/1149 [================>…] - ETA: 0s - loss: 0.1271
1140/1149 [============================>.] - ETA: 0s - loss: 0.1469
1149/1149 [=============================] - 1s 637us/step - loss: 0.1469
Epoch 11/15

   5/1149 […] - ETA: 0s - loss: 0.2179
1010/1149 [========================>…] - ETA: 0s - loss: 0.1172
 690/1148 [================>…] - ETA: 0s - loss: 0.0850
  90/1149 [=>…] - ETA: 0s - loss: 0.0875
 630/1149 [==============>…] - ETA: 0s - loss: 0.1331
1000/1148 [=======================>…] - ETA: 0s - loss: 0.0823
 805/1149 [==================>…] - ETA: 0s - loss: 0.1252
  85/1149 [=>…] - ETA: 0s - loss: 0.2550
1085/1149 [==========================>..] - ETA: 0s - loss: 0.1183
 760/1148 [=================>…] - ETA: 0s - loss: 0.0830
 170/1149 [===>…] - ETA: 0s - loss: 0.0966
 710/1149 [================>…] - ETA: 0s - loss: 0.1370
1149/1149 [=============================] - 1s 620us/step - loss: 0.1173
```

```
1085/1148 [===========================>..] - ETA: 0s - loss: 0.0818
 890/1149 [=====================>…] - ETA: 0s - loss: 0.1209
 175/1149 [===>…] - ETA: 0s - loss: 0.2133
 855/1148 [====================>…] - ETA: 0s - loss: 0.0834
1148/1148 [=============================] - 1s 616us/step - loss: 0.0824

 265/1149 [=====>…] - ETA: 0s - loss: 0.1111
 810/1149 [===================>…] - ETA: 0s - loss: 0.1519
1000/1149 [=======================>…] - ETA: 0s - loss: 0.1193
 280/1149 [======>…] - ETA: 0s - loss: 0.1884
 945/1148 [======================>…] - ETA: 0s - loss: 0.0832
 365/1149 [========>…] - ETA: 0s - loss: 0.1179
 915/1149 [=====================>…] - ETA: 0s - loss: 0.1502
1110/1149 [==========================>..] - ETA: 0s - loss: 0.1157
 405/1149 [=========>…] - ETA: 0s - loss: 0.1855
1070/1148 [=========================>…] - ETA: 0s - loss: 0.0836
1149/1149 [=============================] - 1s 606us/step - loss: 0.1149
Epoch 12/15

   5/1149 […] - ETA: 0s - loss: 0.0958
 475/1149 [==========>…] - ETA: 0s - loss: 0.1283
1025/1149 [========================>…] - ETA: 0s - loss: 0.1449
1148/1148 [=============================] - 1s 564us/step - loss: 0.0838
Epoch 11/20

   5/1148 […] - ETA: 0s - loss: 0.0631
 520/1149 [===========>…] - ETA: 0s - loss: 0.1795
 125/1149 [==>…] - ETA: 0s - loss: 0.0891
 585/1149 [=============>…] - ETA: 0s - loss: 0.1268
1130/1149 [============================>.] - ETA: 0s - loss: 0.1471
 125/1148 [==>…] - ETA: 0s - loss: 0.0691
1149/1149 [=============================] - 1s 589us/step - loss: 0.1498
Epoch 5/20

   5/1149 […] - ETA: 0s - loss: 0.0877
 600/1149 [=============>…] - ETA: 0s - loss: 0.1710
 225/1149 [====>…] - ETA: 0s - loss: 0.0916
 675/1149 [===============>…] - ETA: 0s - loss: 0.1233
 220/1148 [====>…] - ETA: 0s - loss: 0.0668
 100/1149 [=>…] - ETA: 0s - loss: 0.1247
 660/1149 [===============>…] - ETA: 0s - loss: 0.1661
 330/1149 [=======>…] - ETA: 0s - loss: 0.0974
 775/1149 [==================>…] - ETA: 0s - loss: 0.1248
 310/1148 [=======>…] - ETA: 0s - loss: 0.0764
 185/1149 [===>…] - ETA: 0s - loss: 0.1162
 730/1149 [=================>…] - ETA: 0s - loss: 0.1637
 430/1149 [=========>…] - ETA: 0s - loss: 0.1055
 880/1149 [====================>…] - ETA: 0s - loss: 0.1423
```

```
 415/1148 [=========>…] - ETA: 0s - loss: 0.0761
 280/1149 [======>…] - ETA: 0s - loss: 0.1285
 830/1149 [====================>…] - ETA: 0s - loss: 0.1583
 520/1149 [============>…] - ETA: 0s - loss: 0.0990
 960/1149 [=======================>…] - ETA: 0s - loss: 0.1377
 515/1148 [============>…] - ETA: 0s - loss: 0.0756
 375/1149 [========>…] - ETA: 0s - loss: 0.1310
 920/1149 [======================>…] - ETA: 0s - loss: 0.1559
 620/1149 [==============>…] - ETA: 0s - loss: 0.0974
1055/1149 [==========================>…] - ETA: 0s - loss: 0.1339
 615/1148 [==============>…] - ETA: 0s - loss: 0.0748
 455/1149 [==========>…] - ETA: 0s - loss: 0.1595
1030/1149 [=========================>…] - ETA: 0s - loss: 0.1507
 735/1149 [=================>…] - ETA: 0s - loss: 0.1027
1149/1149 [==============================] - 1s 537us/step - loss: 0.1313
Epoch 5/20

    5/1149 […] - ETA: 0s - loss: 0.1687
 720/1148 [=================>…] - ETA: 0s - loss: 0.0754
 565/1149 [=============>…] - ETA: 0s - loss: 0.1554
1130/1149 [============================>.] - ETA: 0s - loss: 0.1468
 830/1149 [====================>…] - ETA: 0s - loss: 0.1005
1149/1149 [==============================] - 1s 550us/step - loss: 0.1457
Epoch 12/15

    5/1149 […] - ETA: 0s - loss: 0.0761
   90/1149 [=>…] - ETA: 0s - loss: 0.1369
 820/1148 [===================>…] - ETA: 0s - loss: 0.0760
 650/1149 [==============>…] - ETA: 0s - loss: 0.1471
 925/1149 [======================>…] - ETA: 0s - loss: 0.1048
 105/1149 [=>…] - ETA: 0s - loss: 0.1148
 185/1149 [===>…] - ETA: 0s - loss: 0.1098
 895/1148 [=====================>…] - ETA: 0s - loss: 0.0770
 750/1149 [=================>…] - ETA: 0s - loss: 0.1434
1015/1149 [========================>…] - ETA: 0s - loss: 0.1141
 200/1149 [====>…] - ETA: 0s - loss: 0.1363
 270/1149 [======>…] - ETA: 0s - loss: 0.1024
 990/1148 [=======================>…] - ETA: 0s - loss: 0.0848
 855/1149 [====================>…] - ETA: 0s - loss: 0.1486
1110/1149 [==========================>..] - ETA: 0s - loss: 0.1122
 300/1149 [======>…] - ETA: 0s - loss: 0.1375
 370/1149 [========>…] - ETA: 0s - loss: 0.0969
1149/1149 [==============================] - 1s 509us/step - loss: 0.1144
Epoch 13/15

    5/1149 […] - ETA: 0s - loss: 0.1682
1085/1148 [===========================>..] - ETA: 0s - loss: 0.0843
 960/1149 [=======================>…] - ETA: 0s - loss: 0.1451Epoch 1/20
```

```
   5/1149 […] - ETA: 1:51 - loss: 3.1191
 395/1149 [=========>…] - ETA: 0s - loss: 0.1571
 480/1149 [===========>…] - ETA: 0s - loss: 0.0993
1148/1148 [==============================] - 1s 529us/step - loss: 0.0835
Epoch 12/20

   5/1148 […] - ETA: 0s - loss: 0.0515
 105/1149 [=>…] - ETA: 0s - loss: 0.0818
1060/1149 [==========================>…] - ETA: 0s - loss: 0.1404
  65/1149 [>…] - ETA: 9s - loss: 1.0414
 495/1149 [==========>…] - ETA: 0s - loss: 0.1528
 575/1149 [=============>…] - ETA: 0s - loss: 0.1039
 110/1148 [=>…] - ETA: 0s - loss: 0.0597
 200/1149 [====>…] - ETA: 0s - loss: 0.0991
1149/1149 [==============================] - 1s 534us/step - loss: 0.1367
Epoch 6/20

   5/1149 […] - ETA: 0s - loss: 0.1001
 150/1149 [==>…] - ETA: 3s - loss: 1.1216
 590/1149 [==============>…] - ETA: 0s - loss: 0.1610
 690/1149 [=================>…] - ETA: 0s - loss: 0.1139
 210/1148 [====>…] - ETA: 0s - loss: 0.0711
 300/1149 [======>…] - ETA: 0s - loss: 0.1141
  80/1149 [=>…] - ETA: 0s - loss: 0.1857Epoch 1/20

   5/1149 […] - ETA: 1:36 - loss: 1.9075
 230/1149 [=====>…] - ETA: 2s - loss: 0.9754
 700/1149 [=================>…] - ETA: 0s - loss: 0.1537
 790/1149 [===================>…] - ETA: 0s - loss: 0.1152
 330/1148 [=======>…] - ETA: 0s - loss: 0.0860
 400/1149 [=========>…] - ETA: 0s - loss: 0.1058
 170/1149 [===>…] - ETA: 0s - loss: 0.1965
  60/1149 [>…] - ETA: 8s - loss: 0.9684
 800/1149 [===================>…] - ETA: 0s - loss: 0.1453
 345/1149 [========>…] - ETA: 1s - loss: 1.0529
 890/1149 [======================>…] - ETA: 0s - loss: 0.1200
 485/1149 [==========>…] - ETA: 0s - loss: 0.1011
 425/1148 [==========>…] - ETA: 0s - loss: 0.0842
 265/1149 [=====>…] - ETA: 0s - loss: 0.1699
 105/1149 [=>…] - ETA: 5s - loss: 0.7899
 885/1149 [=====================>…] - ETA: 0s - loss: 0.1417
 440/1149 [==========>…] - ETA: 1s - loss: 1.0725
 980/1149 [=======================>…] - ETA: 0s - loss: 0.1192
 585/1149 [=============>…] - ETA: 0s - loss: 0.0978
 505/1148 [============>…] - ETA: 0s - loss: 0.0841
 370/1149 [========>…] - ETA: 0s - loss: 0.1638
 165/1149 [===>…] - ETA: 3s - loss: 0.9196
```

```
 985/1149 [=========================>…] - ETA: 0s - loss: 0.1420
 525/1149 [===========>…] - ETA: 0s - loss: 1.1290
1085/1149 [=============================>..] - ETA: 0s - loss: 0.1271
 690/1149 [================>…] - ETA: 0s - loss: 0.1026
 600/1148 [=============>…] - ETA: 0s - loss: 0.0849
 485/1149 [==========>…] - ETA: 0s - loss: 0.1574
1149/1149 [==============================] - 1s 522us/step - loss: 0.1267
Epoch 6/20

   5/1149 […] - ETA: 0s - loss: 0.0858
1080/1149 [===========================>..] - ETA: 0s - loss: 0.1423
 615/1149 [==============>…] - ETA: 0s - loss: 1.0865
 190/1149 [===>…] - ETA: 3s - loss: 0.8671
 810/1149 [===================>…] - ETA: 0s - loss: 0.1055
 710/1148 [================>…] - ETA: 0s - loss: 0.0839
 580/1149 [=============>…] - ETA: 0s - loss: 0.1492
1149/1149 [==============================] - 1s 530us/step - loss: 0.1416
Epoch 13/15

   5/1149 […] - ETA: 0s - loss: 0.1099
  90/1149 [=>…] - ETA: 0s - loss: 0.0894
 705/1149 [=================>…] - ETA: 0s - loss: 1.0504
 910/1149 [======================>…] - ETA: 0s - loss: 0.1054
 815/1148 [===================>…] - ETA: 0s - loss: 0.0842
 240/1149 [=====>…] - ETA: 2s - loss: 0.8583
 675/1149 [===============>…] - ETA: 0s - loss: 0.1493Epoch 1/5

  10/1148 […] - ETA: 57s - loss: 0.3960
  95/1149 [=>…] - ETA: 0s - loss: 0.1416
 180/1149 [===>…] - ETA: 0s - loss: 0.1061
 780/1149 [==================>…] - ETA: 0s - loss: 1.0284
 270/1149 [======>…] - ETA: 2s - loss: 0.9116
 990/1149 [=======================>…] - ETA: 0s - loss: 0.1137
 915/1148 [=====================>…] - ETA: 0s - loss: 0.0822
 765/1149 [==================>…] - ETA: 0s - loss: 0.1448
 400/1148 [=========>…] - ETA: 1s - loss: 0.3564
 165/1149 [===>…] - ETA: 0s - loss: 0.1423
 260/1149 [=====>…] - ETA: 0s - loss: 0.1399
 825/1149 [===================>…] - ETA: 0s - loss: 1.0211
 295/1149 [======>…] - ETA: 2s - loss: 1.0012
1080/1149 [===========================>..] - ETA: 0s - loss: 0.1105
1010/1148 [========================>…] - ETA: 0s - loss: 0.0823
 860/1149 [====================>…] - ETA: 0s - loss: 0.1399
 680/1148 [===============>…] - ETA: 0s - loss: 0.3567
 265/1149 [=====>…] - ETA: 0s - loss: 0.1597
 355/1149 [=======>…] - ETA: 0s - loss: 0.1319
1149/1149 [==============================] - 1s 525us/step - loss: 0.1119
```

83

```
 900/1149 [=====================>…] - ETA: 0s - loss: 1.0034Epoch 14/15

   5/1149 […] - ETA: 0s - loss: 0.0500
 370/1149 [========>…] - ETA: 1s - loss: 0.9890
1105/1148 [==========================>..] - ETA: 0s - loss: 0.0812
 965/1149 [========================>…] - ETA: 0s - loss: 0.1350
 750/1148 [==================>…] - ETA: 0s - loss: 0.3550
 365/1149 [========>…] - ETA: 0s - loss: 0.1567
1148/1148 [==============================] - 1s 516us/step - loss: 0.0826
Epoch 13/20

   5/1148 […] - ETA: 0s - loss: 0.0445
 455/1149 [==========>…] - ETA: 0s - loss: 0.1278
 980/1149 [========================>…] - ETA: 0s - loss: 0.9670
 100/1149 [=>…] - ETA: 0s - loss: 0.1116
 455/1149 [==========>…] - ETA: 1s - loss: 0.9628
1055/1149 [==========================>…] - ETA: 0s - loss: 0.1319
 840/1148 [====================>…] - ETA: 0s - loss: 0.3523
 450/1149 [==========>…] - ETA: 0s - loss: 0.1524
  90/1148 [=>…] - ETA: 0s - loss: 0.0596
 555/1149 [============>…] - ETA: 0s - loss: 0.1245
 200/1149 [====>…] - ETA: 0s - loss: 0.1158
1065/1149 [==========================>…] - ETA: 0s - loss: 0.9475
 555/1149 [============>…] - ETA: 1s - loss: 0.9222
1149/1149 [==============================] - 1s 538us/step - loss: 0.1323
Epoch 7/20

   5/1149 […] - ETA: 0s - loss: 0.0592
 980/1148 [========================>…] - ETA: 0s - loss: 0.3413
 550/1149 [============>…] - ETA: 0s - loss: 0.1463
 170/1148 [===>…] - ETA: 0s - loss: 0.0876
1149/1149 [==============================] - 1s 1ms/step - loss: 0.9502
Epoch 2/20

   5/1149 […] - ETA: 0s - loss: 0.0670
 650/1149 [==============>…] - ETA: 0s - loss: 0.1392
 290/1149 [======>…] - ETA: 0s - loss: 0.1068
 640/1149 [==============>…] - ETA: 0s - loss: 0.9750
 105/1149 [=>…] - ETA: 0s - loss: 0.1175
 255/1148 [=====>…] - ETA: 0s - loss: 0.0842
 640/1149 [==============>…] - ETA: 0s - loss: 0.1441
 125/1149 [==>…] - ETA: 0s - loss: 0.5163
1090/1148 [==========================>..] - ETA: 0s - loss: 0.3336
 745/1149 [==================>…] - ETA: 0s - loss: 0.1340
 400/1149 [========>…] - ETA: 0s - loss: 0.1093
 710/1149 [=================>…] - ETA: 0s - loss: 1.0271
1148/1148 [==============================] - 1s 744us/step - loss: 0.3319
```

```
 195/1149 [====>…] - ETA: 0s - loss: 0.1169Epoch 2/5

  10/1148 […] - ETA: 0s - loss: 0.3994
 350/1148 [========>…] - ETA: 0s - loss: 0.0850
 735/1149 [=================>…] - ETA: 0s - loss: 0.1436
 240/1149 [=====>…] - ETA: 0s - loss: 0.3716
 840/1149 [===================>…] - ETA: 0s - loss: 0.1334
 505/1149 [===========>…] - ETA: 0s - loss: 0.1168
 800/1149 [==================>…] - ETA: 0s - loss: 1.0046
 275/1149 [======>…] - ETA: 0s - loss: 0.1108
  80/1148 [=>…] - ETA: 0s - loss: 0.2566
 435/1148 [=========>…] - ETA: 0s - loss: 0.0817
 820/1149 [===================>…] - ETA: 0s - loss: 0.1378
 345/1149 [=======>…] - ETA: 0s - loss: 0.3246
 925/1149 [======================>…] - ETA: 0s - loss: 0.1299
 600/1149 [=============>…] - ETA: 0s - loss: 0.1236
 910/1149 [====================>…] - ETA: 0s - loss: 0.9748
 360/1149 [=======>…] - ETA: 0s - loss: 0.1023
 170/1148 [===>…] - ETA: 0s - loss: 0.2381
 520/1148 [===========>…] - ETA: 0s - loss: 0.0849
 925/1149 [======================>…] - ETA: 0s - loss: 0.1360
 450/1149 [=========>…] - ETA: 0s - loss: 0.3190
1010/1149 [=========================>…] - ETA: 0s - loss: 0.1290
 695/1149 [================>…] - ETA: 0s - loss: 0.1183
1015/1149 [=========================>…] - ETA: 0s - loss: 0.9601
 450/1149 [=========>…] - ETA: 0s - loss: 0.1099
 330/1148 [=======>…] - ETA: 0s - loss: 0.2377
 640/1148 [==============>…] - ETA: 0s - loss: 0.0851
1025/1149 [=========================>…] - ETA: 0s - loss: 0.1357
 520/1149 [===========>…] - ETA: 0s - loss: 0.2942
1095/1149 [==========================>..] - ETA: 0s - loss: 0.1282
 770/1149 [==================>…] - ETA: 0s - loss: 0.1147
1105/1149 [===========================>..] - ETA: 0s - loss: 0.9298
 540/1149 [============>…] - ETA: 0s - loss: 0.1119
1149/1149 [=============================] - 1s 1ms/step - loss: 0.9135

 540/1148 [=============>…] - ETA: 0s - loss: 0.2122
1149/1149 [=============================] - 1s 576us/step - loss: 0.1263
Epoch 2/20

   5/1149 […] - ETA: 0s - loss: 0.2029Epoch 7/20

   5/1149 […] - ETA: 0s - loss: 0.0310
 760/1148 [==================>…] - ETA: 0s - loss: 0.0842
1130/1149 [============================>.] - ETA: 0s - loss: 0.1391
 590/1149 [==============>…] - ETA: 0s - loss: 0.2724
1149/1149 [=============================] - 1s 549us/step - loss: 0.1382
Epoch 14/15
```

```
   5/1149 […] - ETA: 0s - loss: 0.1478
 850/1149 [====================>…] - ETA: 0s - loss: 0.1166
 635/1149 [===============>…] - ETA: 0s - loss: 0.1120
 710/1148 [=================>…] - ETA: 0s - loss: 0.1953
  80/1149 [=>…] - ETA: 0s - loss: 0.1033
  85/1149 [=>…] - ETA: 0s - loss: 0.4899
 870/1148 [=====================>…] - ETA: 0s - loss: 0.0819
 650/1149 [==============>…] - ETA: 0s - loss: 0.2698
 105/1149 [=>…] - ETA: 0s - loss: 0.1630
 950/1149 [======================>…] - ETA: 0s - loss: 0.1142
 735/1149 [=================>…] - ETA: 0s - loss: 0.1228
 140/1149 [==>…] - ETA: 0s - loss: 0.0942
 155/1149 [===>…] - ETA: 0s - loss: 0.4381
 920/1148 [======================>…] - ETA: 0s - loss: 0.1875
 960/1148 [=======================>…] - ETA: 0s - loss: 0.0817
 725/1149 [=================>…] - ETA: 0s - loss: 0.2565
1055/1149 [=========================>…] - ETA: 0s - loss: 0.1130
 210/1149 [====>…] - ETA: 0s - loss: 0.1489
 840/1149 [===================>…] - ETA: 0s - loss: 0.1260
 220/1149 [====>…] - ETA: 0s - loss: 0.1007
 225/1149 [====>…] - ETA: 0s - loss: 0.4100
1140/1148 [============================>.] - ETA: 0s - loss: 0.1726
1050/1148 [==========================>…] - ETA: 0s - loss: 0.0793
1148/1148 [=============================] - 0s 332us/step - loss: 0.1727
Epoch 3/5

  10/1148 […] - ETA: 0s - loss: 0.1665
 805/1149 [===================>…] - ETA: 0s - loss: 0.2499
1149/1149 [=============================] - 1s 542us/step - loss: 0.1123


 300/1149 [======>…] - ETA: 0s - loss: 0.1555Epoch 15/15

   5/1149 […] - ETA: 0s - loss: 0.1307
 920/1149 [======================>…] - ETA: 0s - loss: 0.1263
 325/1149 [=======>…] - ETA: 0s - loss: 0.1129
 325/1149 [=======>…] - ETA: 0s - loss: 0.4185
1140/1148 [============================>.] - ETA: 0s - loss: 0.0806
 200/1148 [====>…] - ETA: 0s - loss: 0.0922
 925/1149 [=====================>…] - ETA: 0s - loss: 0.2425
1148/1148 [=============================] - 1s 548us/step - loss: 0.0816
Epoch 14/20

   5/1148 […] - ETA: 1s - loss: 0.0501
  75/1149 [>…] - ETA: 0s - loss: 0.0784
 375/1149 [========>…] - ETA: 0s - loss: 0.1377
 980/1149 [=======================>…] - ETA: 0s - loss: 0.1273
 430/1149 [=========>…] - ETA: 0s - loss: 0.1113
```

```
 420/1149 [=========>…] – ETA: 0s – loss: 0.3949
 360/1148 [=======>…] – ETA: 0s – loss: 0.1066
1045/1149 [========================>…] – ETA: 0s – loss: 0.2356
  65/1148 [>…] – ETA: 0s – loss: 0.0523
 150/1149 [==>…] – ETA: 0s – loss: 0.0804
 425/1149 [=========>…] – ETA: 0s – loss: 0.1361
1060/1149 [=========================>…] – ETA: 0s – loss: 0.1263
 530/1149 [===========>…] – ETA: 0s – loss: 0.1260
 505/1149 [===========>…] – ETA: 0s – loss: 0.3647
 530/1148 [===========>…] – ETA: 0s – loss: 0.1063
1140/1149 [===========================>.] – ETA: 0s – loss: 0.2244
 155/1148 [===>…] – ETA: 0s – loss: 0.0650
1149/1149 [============================] – 1s 549us/step – loss: 0.2235


 235/1149 [=====>…] – ETA: 0s – loss: 0.0988Epoch 3/20


   5/1149 […] – ETA: 0s – loss: 0.1040
 505/1149 [===========>…] – ETA: 0s – loss: 0.1381
1149/1149 [============================] – 1s 580us/step – loss: 0.1313
Epoch 8/20


   5/1149 […] – ETA: 0s – loss: 0.0694
 620/1149 [===============>…] – ETA: 0s – loss: 0.1268
 595/1149 [=============>…] – ETA: 0s – loss: 0.3363
 700/1148 [================>…] – ETA: 0s – loss: 0.1056
 235/1148 [=====>…] – ETA: 0s – loss: 0.0677
 315/1149 [=======>…] – ETA: 0s – loss: 0.0955
  95/1149 [=>…] – ETA: 0s – loss: 0.1003
 590/1149 [=============>…] – ETA: 0s – loss: 0.1346
  85/1149 [=>…] – ETA: 0s – loss: 0.1311
 705/1149 [================>…] – ETA: 0s – loss: 0.1266
 685/1149 [===============>…] – ETA: 0s – loss: 0.3211
 860/1148 [====================>…] – ETA: 0s – loss: 0.1066
 315/1148 [=======>…] – ETA: 0s – loss: 0.0692
 410/1149 [=========>…] – ETA: 0s – loss: 0.0955
 175/1149 [===>…] – ETA: 0s – loss: 0.1131
 665/1149 [===============>…] – ETA: 0s – loss: 0.1334
 165/1149 [===>…] – ETA: 0s – loss: 0.1590
 785/1149 [==================>…] – ETA: 0s – loss: 0.1314
 770/1149 [==================>…] – ETA: 0s – loss: 0.3104
1040/1148 [=========================>…] – ETA: 0s – loss: 0.1033
 400/1148 [=========>…] – ETA: 0s – loss: 0.0694
 495/1149 [===========>…] – ETA: 0s – loss: 0.0963
 240/1149 [=====>…] – ETA: 0s – loss: 0.1322
 750/1149 [=================>…] – ETA: 0s – loss: 0.1282
 240/1149 [=====>…] – ETA: 0s – loss: 0.1442
 870/1149 [====================>…] – ETA: 0s – loss: 0.1332
1148/1148 [============================] – 0s 309us/step – loss: 0.1025
```

```
Epoch 4/5

  10/1148 […] - ETA: 0s - loss: 0.0495
 860/1149 [====================>…] - ETA: 0s - loss: 0.2935
 490/1148 [==========>…] - ETA: 0s - loss: 0.0737
 310/1149 [======>…] - ETA: 0s - loss: 0.1746
 585/1149 [=============>…] - ETA: 0s - loss: 0.0969
 825/1149 [===================>…] - ETA: 0s - loss: 0.1253
 330/1149 [======>…] - ETA: 0s - loss: 0.1262
 955/1149 [======================>…] - ETA: 0s - loss: 0.1301
 170/1148 [===>…] - ETA: 0s - loss: 0.0969
 940/1149 [=====================>…] - ETA: 0s - loss: 0.2845
 580/1148 [=============>…] - ETA: 0s - loss: 0.0758
 675/1149 [===============>…] - ETA: 0s - loss: 0.1064
 410/1149 [========>…] - ETA: 0s - loss: 0.1904
 935/1149 [======================>…] - ETA: 0s - loss: 0.1262
 420/1149 [========>…] - ETA: 0s - loss: 0.1175
 350/1148 [=======>…] - ETA: 0s - loss: 0.1097
1050/1149 [=========================>…] - ETA: 0s - loss: 0.1263
1020/1149 [========================>…] - ETA: 0s - loss: 0.2696
 670/1148 [===============>…] - ETA: 0s - loss: 0.0816
 760/1149 [==================>…] - ETA: 0s - loss: 0.1053
 510/1149 [===========>…] - ETA: 0s - loss: 0.1837
1035/1149 [=========================>…] - ETA: 0s - loss: 0.1302
 510/1149 [===========>…] - ETA: 0s - loss: 0.1161
 530/1148 [===========>…] - ETA: 0s - loss: 0.1006
1145/1149 [============================>.] - ETA: 0s - loss: 0.1240
1090/1149 [===========================>..] - ETA: 0s - loss: 0.2657
1149/1149 [=============================] - 1s 589us/step - loss: 0.1237
Epoch 8/20

   5/1149 […] - ETA: 1s - loss: 0.0484
 770/1148 [===================>…] - ETA: 0s - loss: 0.0796
 600/1149 [=============>…] - ETA: 0s - loss: 0.1757
 860/1149 [====================>…] - ETA: 0s - loss: 0.1052
1140/1149 [============================>.] - ETA: 0s - loss: 0.1378
1149/1149 [=============================] - 1s 595us/step - loss: 0.1373
Epoch 15/15

   5/1149 […] - ETA: 0s - loss: 0.0693
 615/1149 [=============>…] - ETA: 0s - loss: 0.1271
1149/1149 [=============================] - 1s 618us/step - loss: 0.2603
Epoch 3/20

   5/1149 […] - ETA: 0s - loss: 0.1448
 690/1148 [=================>…] - ETA: 0s - loss: 0.0958
  75/1149 [>…] - ETA: 0s - loss: 0.1016
 875/1148 [====================>…] - ETA: 0s - loss: 0.0795
```

```
 705/1149 [=================>…] - ETA: 0s - loss: 0.1683
 965/1149 [=======================>…] - ETA: 0s - loss: 0.1061
 105/1149 [=>…] - ETA: 0s - loss: 0.1358
 715/1149 [=================>…] - ETA: 0s - loss: 0.1250
 100/1149 [=>…] - ETA: 0s - loss: 0.1902
 850/1148 [====================>…] - ETA: 0s - loss: 0.0927
 155/1149 [===>…] - ETA: 0s - loss: 0.1381
 975/1148 [=======================>…] - ETA: 0s - loss: 0.0822
1055/1149 [=========================>…] - ETA: 0s - loss: 0.1064
 805/1149 [===================>…] - ETA: 0s - loss: 0.1602
 205/1149 [====>…] - ETA: 0s - loss: 0.1283
 805/1149 [===================>…] - ETA: 0s - loss: 0.1308
 195/1149 [====>…] - ETA: 0s - loss: 0.1797
1070/1148 [==========================>…] - ETA: 0s - loss: 0.0907
 240/1149 [=====>…] - ETA: 0s - loss: 0.1352
1070/1148 [==========================>…] - ETA: 0s - loss: 0.0812
1148/1148 [=============================] - 0s 288us/step - loss: 0.0898


1145/1149 [============================>.] - ETA: 0s - loss: 0.1091Epoch 5/5

  10/1148 […] - ETA: 0s - loss: 0.0492
 885/1149 [=====================>…] - ETA: 0s - loss: 0.1602
1149/1149 [=============================] - 1s 589us/step - loss: 0.1089


 290/1149 [======>…] - ETA: 0s - loss: 0.1213
 890/1149 [=====================>…] - ETA: 0s - loss: 0.1266
 295/1149 [======>…] - ETA: 0s - loss: 0.1750
1148/1148 [=============================] - 1s 578us/step - loss: 0.0804

 320/1149 [=======>…] - ETA: 0s - loss: 0.1359Epoch 15/20


   5/1148 […] - ETA: 0s - loss: 0.0221
 210/1148 [====>…] - ETA: 0s - loss: 0.0747
 990/1149 [=======================>…] - ETA: 0s - loss: 0.1565
 380/1149 [========>…] - ETA: 0s - loss: 0.1220
 990/1149 [=======================>…] - ETA: 0s - loss: 0.1239
 405/1149 [========>…] - ETA: 0s - loss: 0.1670
 415/1149 [========>…] - ETA: 0s - loss: 0.1309
 100/1148 [=>…] - ETA: 0s - loss: 0.0611
 410/1148 [========>…] - ETA: 0s - loss: 0.0770
1085/1149 [==========================>..] - ETA: 0s - loss: 0.1525
 480/1149 [==========>…] - ETA: 0s - loss: 0.1213
1090/1149 [==========================>..] - ETA: 0s - loss: 0.1267
 490/1149 [==========>…] - ETA: 0s - loss: 0.1912
 495/1149 [==========>…] - ETA: 0s - loss: 0.1240
1149/1149 [=============================] - 1s 572us/step - loss: 0.1547

 205/1148 [====>…] - ETA: 0s - loss: 0.0858Epoch 4/20
```

```
   5/1149 […] - ETA: 0s - loss: 0.1069
 590/1148 [==============>…] - ETA: 0s - loss: 0.0846
1149/1149 [==============================] - 1s 572us/step - loss: 0.1281
Epoch 9/20

   5/1149 […] - ETA: 0s - loss: 0.1021
 575/1149 [=============>…] - ETA: 0s - loss: 0.1324
 580/1149 [=============>…] - ETA: 0s - loss: 0.1832
 585/1149 [=============>…] - ETA: 0s - loss: 0.1211
 295/1148 [======>…] - ETA: 0s - loss: 0.0795
  90/1149 [=>…] - ETA: 0s - loss: 0.1842
 760/1148 [=================>…] - ETA: 0s - loss: 0.0844
  85/1149 [=>…] - ETA: 0s - loss: 0.0665
 665/1149 [===============>…] - ETA: 0s - loss: 0.1350
 670/1149 [===============>…] - ETA: 0s - loss: 0.1769
 180/1149 [===>…] - ETA: 0s - loss: 0.1378
 675/1149 [===============>…] - ETA: 0s - loss: 0.1171
 375/1148 [=======>…] - ETA: 0s - loss: 0.0817
 940/1148 [======================>…] - ETA: 0s - loss: 0.0842
 165/1149 [===>…] - ETA: 0s - loss: 0.1003
 750/1149 [=================>…] - ETA: 0s - loss: 0.1369
 765/1149 [=================>…] - ETA: 0s - loss: 0.1696
 445/1148 [=========>…] - ETA: 0s - loss: 0.0770
 765/1149 [=================>…] - ETA: 0s - loss: 0.1123
 275/1149 [======>…] - ETA: 0s - loss: 0.1364
1120/1148 [============================>.] - ETA: 0s - loss: 0.0835
 255/1149 [=====>…] - ETA: 0s - loss: 0.1284
1148/1148 [==============================] - 0s 275us/step - loss: 0.0847

 840/1149 [===================>…] - ETA: 0s - loss: 0.1338
 860/1149 [=====================>…] - ETA: 0s - loss: 0.1649
 540/1148 [============>…] - ETA: 0s - loss: 0.0786
 385/1149 [========>…] - ETA: 0s - loss: 0.1295
 865/1149 [=====================>…] - ETA: 0s - loss: 0.1186
 330/1149 [=======>…] - ETA: 0s - loss: 0.1361
 920/1149 [======================>…] - ETA: 0s - loss: 0.1390
 935/1149 [=======================>…] - ETA: 0s - loss: 0.1713
 620/1148 [==============>…] - ETA: 0s - loss: 0.0790
 950/1149 [=======================>…] - ETA: 0s - loss: 0.1194
 460/1149 [==========>…] - ETA: 0s - loss: 0.1344
 400/1149 [========>…] - ETA: 0s - loss: 0.1307
 995/1149 [========================>…] - ETA: 0s - loss: 0.1363
1015/1149 [==========================>…] - ETA: 0s - loss: 0.1667
 700/1148 [================>…] - ETA: 0s - loss: 0.0771
1040/1149 [==========================>…] - ETA: 0s - loss: 0.1255
 560/1149 [=============>…] - ETA: 0s - loss: 0.1292
 485/1149 [==========>…] - ETA: 0s - loss: 0.1437
```

```
1095/1149 [============================>..] - ETA: 0s - loss: 0.1347
1100/1149 [============================>..] - ETA: 0s - loss: 0.1681
 790/1148 [==================>…] - ETA: 0s - loss: 0.0776
1149/1149 [==============================] - 1s 565us/step - loss: 0.1332


1130/1149 [=============================>.] - ETA: 0s - loss: 0.1228
 660/1149 [===============>…] - ETA: 0s - loss: 0.1221
1149/1149 [==============================] - 1s 567us/step - loss: 0.1659


 565/1149 [=============>…] - ETA: 0s - loss: 0.1350Epoch 4/20


   5/1149 […] - ETA: 0s - loss: 0.1076
1149/1149 [==============================] - 1s 601us/step - loss: 0.1222
Epoch 9/20


   5/1149 […] - ETA: 0s - loss: 0.2119
 865/1148 [=====================>…] - ETA: 0s - loss: 0.0799
 740/1149 [==================>…] - ETA: 0s - loss: 0.1195
 635/1149 [===============>…] - ETA: 0s - loss: 0.1334
  80/1149 [=>…] - ETA: 0s - loss: 0.1238
  85/1149 [=>…] - ETA: 0s - loss: 0.1139
 975/1148 [=======================>…] - ETA: 0s - loss: 0.0812
 830/1149 [====================>…] - ETA: 0s - loss: 0.1348
 730/1149 [==================>…] - ETA: 0s - loss: 0.1284
 170/1149 [===>…] - ETA: 0s - loss: 0.1346
 165/1149 [===>…] - ETA: 0s - loss: 0.1054
1020/1148 [========================>…] - ETA: 0s - loss: 0.0816
 755/1149 [==================>…] - ETA: 0s - loss: 0.1290
 855/1149 [====================>…] - ETA: 0s - loss: 0.1338
 195/1149 [====>…] - ETA: 0s - loss: 0.1331
 190/1149 [===>…] - ETA: 0s - loss: 0.1050
1065/1148 [=========================>…] - ETA: 0s - loss: 0.0806
 885/1149 [=====================>…] - ETA: 0s - loss: 0.1352
 225/1149 [====>…] - ETA: 0s - loss: 0.1010
 230/1149 [=====>…] - ETA: 0s - loss: 0.1355
 785/1149 [==================>…] - ETA: 0s - loss: 0.1265
1090/1148 [============================>..] - ETA: 0s - loss: 0.0801
 925/1149 [======================>…] - ETA: 0s - loss: 0.1357
1148/1148 [==============================] - 1s 657us/step - loss: 0.0804


 260/1149 [=====>…] - ETA: 0s - loss: 0.1105
 835/1149 [==================>…] - ETA: 0s - loss: 0.1301
 295/1149 [======>…] - ETA: 0s - loss: 0.1396Epoch 16/20


   5/1148 […] - ETA: 0s - loss: 0.0454
1025/1149 [========================>…] - ETA: 0s - loss: 0.1347
 395/1149 [=========>…] - ETA: 0s - loss: 0.1384
 355/1149 [========>…] - ETA: 0s - loss: 0.1093
```

```
 925/1149 [=======================>…] – ETA: 0s – loss: 0.1281
  95/1148 [=>…] – ETA: 0s – loss: 0.0566
1130/1149 [=============================>.] – ETA: 0s – loss: 0.1461
 500/1149 [============>…] – ETA: 0s – loss: 0.1627
 460/1149 [==========>…] – ETA: 0s – loss: 0.1117
1149/1149 [==============================] – 1s 657us/step – loss: 0.1470


 200/1148 [====>…] – ETA: 0s – loss: 0.0724
1025/1149 [========================>…] – ETA: 0s – loss: 0.1228Epoch 5/20


   5/1149 […] – ETA: 0s – loss: 0.0831
 610/1149 [=============>…] – ETA: 0s – loss: 0.1625
 565/1149 [=============>…] – ETA: 0s – loss: 0.1197
 305/1148 [======>…] – ETA: 0s – loss: 0.0767
 115/1149 [==>…] – ETA: 0s – loss: 0.1808
1125/1149 [============================>.] – ETA: 0s – loss: 0.1293
1149/1149 [==============================] – 1s 705us/step – loss: 0.1281
Epoch 10/20


   5/1149 […] – ETA: 0s – loss: 0.0821
 650/1149 [==============>…] – ETA: 0s – loss: 0.1175
 705/1149 [=================>…] – ETA: 0s – loss: 0.1586
 405/1148 [=========>…] – ETA: 0s – loss: 0.0748
 210/1149 [====>…] – ETA: 0s – loss: 0.1929
  90/1149 [=>…] – ETA: 0s – loss: 0.1198
 755/1149 [=================>…] – ETA: 0s – loss: 0.1247
 810/1149 [===================>…] – ETA: 0s – loss: 0.1523
 500/1148 [============>…] – ETA: 0s – loss: 0.0784
 310/1149 [=======>…] – ETA: 0s – loss: 0.1797
 190/1149 [===>…] – ETA: 0s – loss: 0.1170
 850/1149 [====================>…] – ETA: 0s – loss: 0.1209
 905/1149 [=====================>…] – ETA: 0s – loss: 0.1538
 395/1149 [=========>…] – ETA: 0s – loss: 0.1692
 590/1148 [==============>…] – ETA: 0s – loss: 0.0781
 300/1149 [======>…] – ETA: 0s – loss: 0.1284
1000/1149 [=======================>…] – ETA: 0s – loss: 0.1538
 945/1149 [=======================>…] – ETA: 0s – loss: 0.1172
 675/1148 [================>…] – ETA: 0s – loss: 0.0765
 495/1149 [==========>…] – ETA: 0s – loss: 0.1593Epoch 1/5


  10/1149 […] – ETA: 1:30 – loss: 0.7294
 395/1149 [=========>…] – ETA: 0s – loss: 0.1190
1040/1149 [=========================>…] – ETA: 0s – loss: 0.1176
1090/1149 [============================>..] – ETA: 0s – loss: 0.1520
 575/1149 [=============>…] – ETA: 0s – loss: 0.1555
 775/1148 [==================>…] – ETA: 0s – loss: 0.0761
 180/1149 [===>…] – ETA: 4s – loss: 1.0826
 495/1149 [==========>…] – ETA: 0s – loss: 0.1164
```

```
1149/1149 [==============================] - 1s 634us/step - loss: 0.1556
Epoch 5/20

   5/1149 […] - ETA: 0s - loss: 0.0736
1130/1149 [============================>.] - ETA: 0s - loss: 0.1199
 670/1149 [================>…] - ETA: 0s - loss: 0.1462
 860/1148 [=====================>…] - ETA: 0s - loss: 0.0761
1149/1149 [==============================] - 1s 648us/step - loss: 0.1198
Epoch 10/20

   5/1149 […] - ETA: 0s - loss: 0.1336
 320/1149 [=======>…] - ETA: 2s - loss: 1.0417
 580/1149 [==============>…] - ETA: 0s - loss: 0.1179
  95/1149 [=>…] - ETA: 0s - loss: 0.2004
 950/1148 [=======================>…] - ETA: 0s - loss: 0.0764
 760/1149 [==================>…] - ETA: 0s - loss: 0.1381
 100/1149 [=>…] - ETA: 0s - loss: 0.1386
 660/1149 [================>…] - ETA: 0s - loss: 0.1304
 440/1149 [==========>…] - ETA: 1s - loss: 1.1068
 190/1149 [===>…] - ETA: 0s - loss: 0.1825
1045/1148 [=========================>…] - ETA: 0s - loss: 0.0797
 865/1149 [=====================>…] - ETA: 0s - loss: 0.1473
 185/1149 [===>…] - ETA: 0s - loss: 0.1532
 755/1149 [==================>…] - ETA: 0s - loss: 0.1310
 290/1149 [======>…] - ETA: 0s - loss: 0.1726
 460/1149 [==========>…] - ETA: 1s - loss: 1.1024
1148/1148 [==============================] - 1s 536us/step - loss: 0.0796
Epoch 17/20

   5/1148 […] - ETA: 0s - loss: 0.0422
 970/1149 [========================>…] - ETA: 0s - loss: 0.1464
 285/1149 [======>…] - ETA: 0s - loss: 0.1512
 850/1149 [=====================>…] - ETA: 0s - loss: 0.1318
 395/1149 [=========>…] - ETA: 0s - loss: 0.1704
 550/1149 [=============>…] - ETA: 1s - loss: 1.1949
 110/1148 [=>…] - ETA: 0s - loss: 0.0824
1090/1149 [==========================>..] - ETA: 0s - loss: 0.1409Epoch 1/5

  10/1149 […] - ETA: 50s - loss: 0.9010
 380/1149 [=======>…] - ETA: 0s - loss: 0.1444
 950/1149 [=======================>…] - ETA: 0s - loss: 0.1327
1149/1149 [==============================] - 1s 517us/step - loss: 0.1422
Epoch 6/20

   5/1149 […] - ETA: 0s - loss: 0.4304
 515/1149 [============>…] - ETA: 0s - loss: 0.1638
 670/1149 [================>…] - ETA: 0s - loss: 1.1788
 200/1148 [====>…] - ETA: 0s - loss: 0.0653Epoch 1/5
```

93

```
  10/1149 [...] - ETA: 43s - loss: 1.8925
 485/1149 [==========>...] - ETA: 0s - loss: 0.1310
  40/1149 [>...] - ETA: 13s - loss: 1.2412
1040/1149 [=========================>...] - ETA: 0s - loss: 0.1293
 120/1149 [==>...] - ETA: 0s - loss: 0.2535
 640/1149 [===============>...] - ETA: 0s - loss: 0.1551
 840/1149 [====================>...] - ETA: 0s - loss: 1.1590
 315/1148 [=======>...] - ETA: 0s - loss: 0.0717
  20/1149 [...] - ETA: 24s - loss: 1.1395
 610/1149 [=============>...] - ETA: 0s - loss: 0.1392
 120/1149 [==>...] - ETA: 4s - loss: 1.7121
1135/1149 [=============================>.] - ETA: 0s - loss: 0.1269
1149/1149 [==============================] - 1s 545us/step - loss: 0.1264
Epoch 11/20

   5/1149 [...] - ETA: 0s - loss: 0.0806
 225/1149 [====>...] - ETA: 0s - loss: 0.2313
 745/1149 [==================>...] - ETA: 0s - loss: 0.1521
1110/1149 [============================>..] - ETA: 0s - loss: 1.1492
 425/1148 [==========>...] - ETA: 0s - loss: 0.0751
1149/1149 [==============================] - 1s 1ms/step - loss: 1.1556
Epoch 2/5

  10/1149 [...] - ETA: 0s - loss: 1.1767
 715/1149 [=================>...] - ETA: 0s - loss: 0.1331
 220/1149 [====>...] - ETA: 2s - loss: 1.4304
 115/1149 [==>...] - ETA: 0s - loss: 0.1018
 330/1149 [=======>...] - ETA: 0s - loss: 0.1987
 850/1149 [=====================>...] - ETA: 0s - loss: 0.1449
  60/1149 [>...] - ETA: 9s - loss: 1.1279
 530/1148 [============>...] - ETA: 0s - loss: 0.0811
 240/1149 [=====>...] - ETA: 0s - loss: 0.8390
 820/1149 [===================>...] - ETA: 0s - loss: 0.1297
 310/1149 [=======>...] - ETA: 1s - loss: 1.3585
 230/1149 [=====>...] - ETA: 0s - loss: 0.0833
 420/1149 [=========>...] - ETA: 0s - loss: 0.1815
 960/1149 [=======================>...] - ETA: 0s - loss: 0.1444
 100/1149 [=>...] - ETA: 6s - loss: 0.9563
 470/1149 [==========>...] - ETA: 0s - loss: 0.9016
 625/1148 [==============>...] - ETA: 0s - loss: 0.0800
 910/1149 [=====================>...] - ETA: 0s - loss: 0.1251
 450/1149 [==========>...] - ETA: 1s - loss: 1.2518
 345/1149 [=======>...] - ETA: 0s - loss: 0.0976
 520/1149 [============>...] - ETA: 0s - loss: 0.1712
1055/1149 [==========================>...] - ETA: 0s - loss: 0.1440
 690/1149 [=================>...] - ETA: 0s - loss: 0.8889
 160/1149 [===>...] - ETA: 3s - loss: 0.8763
```

```
 730/1148 [==================>…] - ETA: 0s - loss: 0.0776
1000/1149 [=========================>…] - ETA: 0s - loss: 0.1231
 610/1149 [=============>…] - ETA: 0s - loss: 1.2439
1149/1149 [==============================] - 1s 487us/step - loss: 0.1490


 465/1149 [==========>…] - ETA: 0s - loss: 0.1054Epoch 6/20

   5/1149 […] - ETA: 0s - loss: 0.0796
 600/1149 [=============>…] - ETA: 0s - loss: 0.1657
 900/1149 [======================>…] - ETA: 0s - loss: 0.8329
 230/1149 [=====>…] - ETA: 2s - loss: 1.1816
 820/1148 [====================>…] - ETA: 0s - loss: 0.0789
1095/1149 [============================>..] - ETA: 0s - loss: 0.1192
 720/1149 [=================>…] - ETA: 0s - loss: 1.2415
 565/1149 [============>…] - ETA: 0s - loss: 0.1148
 700/1149 [=================>…] - ETA: 0s - loss: 0.1570
 120/1149 [==>…] - ETA: 0s - loss: 0.1363
1149/1149 [==============================] - 1s 521us/step - loss: 0.1176
Epoch 11/20

   5/1149 […] - ETA: 0s - loss: 0.0935
1130/1149 [============================>.] - ETA: 0s - loss: 0.7703
 925/1148 [=======================>…] - ETA: 0s - loss: 0.0798
 300/1149 [======>…] - ETA: 2s - loss: 1.1256
1149/1149 [==============================] - 0s 231us/step - loss: 0.7654
Epoch 3/5

  10/1149 […] - ETA: 0s - loss: 0.4846
 790/1149 [===================>…] - ETA: 0s - loss: 1.2079
 675/1149 [================>…] - ETA: 0s - loss: 0.1121
 805/1149 [===================>…] - ETA: 0s - loss: 0.1482
 235/1149 [=====>…] - ETA: 0s - loss: 0.1623
  95/1149 [=>…] - ETA: 0s - loss: 0.1553
 370/1149 [=======>…] - ETA: 1s - loss: 1.1145
1015/1148 [=========================>…] - ETA: 0s - loss: 0.0798
 240/1149 [=====>…] - ETA: 0s - loss: 0.3549
 930/1149 [======================>…] - ETA: 0s - loss: 1.1601
 770/1149 [=================>…] - ETA: 0s - loss: 0.1236
 900/1149 [=====================>…] - ETA: 0s - loss: 0.1461
 325/1149 [=======>…] - ETA: 0s - loss: 0.1491
 195/1149 [====>…] - ETA: 0s - loss: 0.1300
1110/1148 [===========================>.] - ETA: 0s - loss: 0.0801
 550/1149 [============>…] - ETA: 0s - loss: 1.1618
 360/1149 [=======>…] - ETA: 0s - loss: 0.3357
1149/1149 [==============================] - 1s 842us/step - loss: 1.1448


1148/1148 [==============================] - 1s 516us/step - loss: 0.0796
Epoch 2/5
```

```
  10/1149 […] - ETA: 0s - loss: 1.1782Epoch 18/20

   5/1148 […] - ETA: 0s - loss: 0.3259
 845/1149 [====================>…] - ETA: 0s - loss: 0.1224
 995/1149 [=========================>…] - ETA: 0s - loss: 0.1422
 390/1149 [=========>…] - ETA: 0s - loss: 0.1508
 295/1149 [======>…] - ETA: 0s - loss: 0.1279
 710/1149 [================>…] - ETA: 0s - loss: 1.1797
 520/1149 [===========>…] - ETA: 0s - loss: 0.2954
 270/1149 [======>…] - ETA: 0s - loss: 0.9905
 100/1148 [=>…] - ETA: 0s - loss: 0.1332
 910/1149 [=====================>…] - ETA: 0s - loss: 0.1285
1095/1149 [===========================>..] - ETA: 0s - loss: 0.1394
 465/1149 [==========>…] - ETA: 0s - loss: 0.1477
 390/1149 [=========>…] - ETA: 0s - loss: 0.1245
 910/1149 [=====================>…] - ETA: 0s - loss: 1.1646
1149/1149 [==============================] - 1s 522us/step - loss: 0.1372

 680/1149 [===============>…] - ETA: 0s - loss: 0.2679Epoch 7/20

   5/1149 […] - ETA: 0s - loss: 0.1208
 420/1149 [=========>…] - ETA: 0s - loss: 0.9443
 200/1148 [====>…] - ETA: 0s - loss: 0.1075
1015/1149 [=========================>…] - ETA: 0s - loss: 0.1251
 560/1149 [=============>…] - ETA: 0s - loss: 0.1473
 450/1149 [==========>…] - ETA: 0s - loss: 0.1252
1060/1149 [==========================>…] - ETA: 0s - loss: 1.1450
 900/1149 [=====================>…] - ETA: 0s - loss: 0.2466
 110/1149 [=>…] - ETA: 0s - loss: 0.1400
 580/1149 [==============>…] - ETA: 0s - loss: 0.8619
 285/1148 [======>…] - ETA: 0s - loss: 0.0987
1120/1149 [===========================>.] - ETA: 0s - loss: 0.1247
1149/1149 [==============================] - 1s 888us/step - loss: 1.1043

 650/1149 [==============>…] - ETA: 0s - loss: 0.1447Epoch 2/5

  10/1149 […] - ETA: 0s - loss: 1.1554
 525/1149 [============>…] - ETA: 0s - loss: 0.1216
1149/1149 [==============================] - 1s 510us/step - loss: 0.1239
Epoch 12/20

   5/1149 […] - ETA: 0s - loss: 0.1329
1100/1149 [===========================>..] - ETA: 0s - loss: 0.2251
 225/1149 [====>…] - ETA: 0s - loss: 0.1210
 710/1149 [================>…] - ETA: 0s - loss: 0.8435
1149/1149 [==============================] - 0s 284us/step - loss: 0.2211
```

```
 365/1148 [========>…] - ETA: 0s - loss: 0.0983Epoch 4/5

  10/1149 […] - ETA: 0s - loss: 0.0885
 745/1149 [=================>…] - ETA: 0s - loss: 0.1449
 190/1149 [===>…] - ETA: 0s - loss: 0.8501
 605/1149 [=============>…] - ETA: 0s - loss: 0.1269
  95/1149 [=>…] - ETA: 0s - loss: 0.1925
 305/1149 [======>…] - ETA: 0s - loss: 0.1274
 900/1149 [=====================>…] - ETA: 0s - loss: 0.7648
 230/1149 [=====>…] - ETA: 0s - loss: 0.1733
 430/1148 [=========>…] - ETA: 0s - loss: 0.0926
 840/1149 [===================>…] - ETA: 0s - loss: 0.1410
 410/1149 [=========>…] - ETA: 0s - loss: 0.7792
 710/1149 [================>…] - ETA: 0s - loss: 0.1209
 195/1149 [====>…] - ETA: 0s - loss: 0.1673
 390/1149 [=========>…] - ETA: 0s - loss: 0.1541
1070/1149 [=========================>…] - ETA: 0s - loss: 0.7044
 420/1149 [=========>…] - ETA: 0s - loss: 0.1369
 505/1148 [============>…] - ETA: 0s - loss: 0.0897
 925/1149 [======================>…] - ETA: 0s - loss: 0.1408
 610/1149 [=============>…] - ETA: 0s - loss: 0.7800
1149/1149 [==============================] - 0s 285us/step - loss: 0.6893

 790/1149 [===================>…] - ETA: 0s - loss: 0.1181Epoch 3/5

  10/1149 […] - ETA: 0s - loss: 0.2219
 280/1149 [======>…] - ETA: 0s - loss: 0.1587
 490/1149 [==========>…] - ETA: 0s - loss: 0.1576
 610/1149 [=============>…] - ETA: 0s - loss: 0.1322
 615/1148 [==============>…] - ETA: 0s - loss: 0.0865
1005/1149 [========================>…] - ETA: 0s - loss: 0.1446
 790/1149 [===================>…] - ETA: 0s - loss: 0.7661
 895/1149 [=====================>…] - ETA: 0s - loss: 0.1178
 220/1149 [====>…] - ETA: 0s - loss: 0.2948
 355/1149 [========>…] - ETA: 0s - loss: 0.1589
 585/1149 [=============>…] - ETA: 0s - loss: 0.1528
 715/1148 [================>…] - ETA: 0s - loss: 0.0824
 790/1149 [===================>…] - ETA: 0s - loss: 0.1383
1090/1149 [==========================>..] - ETA: 0s - loss: 0.1449
 980/1149 [======================>…] - ETA: 0s - loss: 0.7004
1000/1149 [========================>…] - ETA: 0s - loss: 0.1234
 430/1149 [=========>…] - ETA: 0s - loss: 0.2768
 440/1149 [=========>…] - ETA: 0s - loss: 0.1526
1149/1149 [==============================] - 1s 569us/step - loss: 0.1449
Epoch 7/20

   5/1149 […] - ETA: 0s - loss: 0.1244
 685/1149 [===============>…] - ETA: 0s - loss: 0.1472
```

```
1010/1149 [=========================>…] - ETA: 0s - loss: 0.1321
 825/1148 [====================>…] - ETA: 0s - loss: 0.0780
1149/1149 [==============================] - 0s 268us/step - loss: 0.6562
Epoch 3/5

  10/1149 […] - ETA: 0s - loss: 0.1469
 600/1149 [==============>…] - ETA: 0s - loss: 0.2794
1095/1149 [===========================>..] - ETA: 0s - loss: 0.1189
 525/1149 [===========>…] - ETA: 0s - loss: 0.1402
1149/1149 [==============================] - 0s 250us/step - loss: 0.1403
Epoch 5/5

  10/1149 […] - ETA: 0s - loss: 0.0813
 765/1149 [==================>…] - ETA: 0s - loss: 0.1447
 110/1149 [=>…] - ETA: 0s - loss: 0.1260
1149/1149 [==============================] - 1s 568us/step - loss: 0.1178


 915/1148 [=====================>…] - ETA: 0s - loss: 0.0792Epoch 12/20

   5/1149 […] - ETA: 0s - loss: 0.0857
 170/1149 [===>…] - ETA: 0s - loss: 0.3451
 770/1149 [===================>…] - ETA: 0s - loss: 0.2925
 605/1149 [==============>…] - ETA: 0s - loss: 0.1376
 230/1149 [=====>…] - ETA: 0s - loss: 0.1069
 845/1149 [====================>…] - ETA: 0s - loss: 0.1422
 225/1149 [====>…] - ETA: 0s - loss: 0.1301
1000/1148 [=========================>…] - ETA: 0s - loss: 0.0789
 360/1149 [========>…] - ETA: 0s - loss: 0.2784
 110/1149 [=>…] - ETA: 0s - loss: 0.1209
 950/1149 [======================>…] - ETA: 0s - loss: 0.2789
 710/1149 [=================>…] - ETA: 0s - loss: 0.1299
 400/1149 [=========>…] - ETA: 0s - loss: 0.1363
 935/1149 [======================>…] - ETA: 0s - loss: 0.1398
 300/1149 [======>…] - ETA: 0s - loss: 0.1278
1085/1148 [==========================>..] - ETA: 0s - loss: 0.0781
 540/1149 [============>…] - ETA: 0s - loss: 0.2313
 220/1149 [====>…] - ETA: 0s - loss: 0.1406
1120/1149 [============================>.] - ETA: 0s - loss: 0.2643
 835/1149 [====================>…] - ETA: 0s - loss: 0.1258
1149/1149 [==============================] - 0s 275us/step - loss: 0.2612
Epoch 4/5

  10/1149 […] - ETA: 0s - loss: 0.1950
 560/1149 [=============>…] - ETA: 0s - loss: 0.1292
1148/1148 [==============================] - 1s 575us/step - loss: 0.0786


1035/1149 [==========================>…] - ETA: 0s - loss: 0.1357Epoch 19/20
```

```
   5/1148 […] - ETA: 0s - loss: 0.1003
 390/1149 [=========>…] - ETA: 0s - loss: 0.1503
 750/1149 [==================>…] - ETA: 0s - loss: 0.2131
 325/1149 [=======>…] - ETA: 0s - loss: 0.1308
 945/1149 [======================>…] - ETA: 0s - loss: 0.1246
 200/1149 [====>…] - ETA: 0s - loss: 0.1668
 730/1149 [==================>…] - ETA: 0s - loss: 0.1358
1120/1149 [============================>.] - ETA: 0s - loss: 0.1342
 485/1149 [==========>…] - ETA: 0s - loss: 0.1628
 105/1148 [=>…] - ETA: 0s - loss: 0.0797
 930/1149 [======================>…] - ETA: 0s - loss: 0.2058
 405/1149 [=========>…] - ETA: 0s - loss: 0.1324
1149/1149 [=============================] - 1s 556us/step - loss: 0.1338
Epoch 8/20

   5/1149 […] - ETA: 0s - loss: 0.0570
1035/1149 [=========================>…] - ETA: 0s - loss: 0.1242
 360/1149 [========>…] - ETA: 0s - loss: 0.1722
 940/1149 [======================>…] - ETA: 0s - loss: 0.1289
 585/1149 [=============>…] - ETA: 0s - loss: 0.1552
 210/1148 [====>…] - ETA: 0s - loss: 0.0837
1100/1149 [===========================>..] - ETA: 0s - loss: 0.2082
 490/1149 [==========>…] - ETA: 0s - loss: 0.1261
  90/1149 [=>…] - ETA: 0s - loss: 0.1430
1149/1149 [=============================] - 0s 282us/step - loss: 0.2058
Epoch 4/5

  10/1149 […] - ETA: 0s - loss: 0.2047
1120/1149 [============================>.] - ETA: 0s - loss: 0.1248
 540/1149 [=============>…] - ETA: 0s - loss: 0.1720
1149/1149 [=============================] - 0s 269us/step - loss: 0.1301


1149/1149 [=============================] - 1s 556us/step - loss: 0.1234

 315/1148 [=======>…] - ETA: 0s - loss: 0.0749Epoch 13/20

   5/1149 […] - ETA: 0s - loss: 0.0620
 685/1149 [================>…] - ETA: 0s - loss: 0.1555
 175/1149 [===>…] - ETA: 0s - loss: 0.1202
 570/1149 [============>…] - ETA: 0s - loss: 0.1229
 190/1149 [===>…] - ETA: 0s - loss: 0.1651
 710/1149 [================>…] - ETA: 0s - loss: 0.1785
 415/1148 [=========>…] - ETA: 0s - loss: 0.0756
 790/1149 [==================>…] - ETA: 0s - loss: 0.1493
 100/1149 [=>…] - ETA: 0s - loss: 0.1682
 280/1149 [======>…] - ETA: 0s - loss: 0.1042
 655/1149 [================>…] - ETA: 0s - loss: 0.1157
 410/1149 [=========>…] - ETA: 0s - loss: 0.1292
```

```
 920/1149 [=======================>…] - ETA: 0s - loss: 0.1705
 530/1148 [===========>…] - ETA: 0s - loss: 0.0760
 895/1149 [======================>…] - ETA: 0s - loss: 0.1495
 200/1149 [====>…] - ETA: 0s - loss: 0.1180
 380/1149 [========>…] - ETA: 0s - loss: 0.1296
 750/1149 [==================>…] - ETA: 0s - loss: 0.1158
 630/1149 [==============>…] - ETA: 0s - loss: 0.1561
1100/1149 [===========================>..] - ETA: 0s - loss: 0.1694
 625/1148 [==============>…] - ETA: 0s - loss: 0.0747
1149/1149 [==============================] - 0s 285us/step - loss: 0.1672

 980/1149 [=======================>…] - ETA: 0s - loss: 0.1478
 280/1149 [======>…] - ETA: 0s - loss: 0.1126Epoch 5/5

  10/1149 […] - ETA: 0s - loss: 0.1846
 490/1149 [==========>…] - ETA: 0s - loss: 0.1328
 840/1149 [====================>…] - ETA: 0s - loss: 0.1167
 810/1149 [===================>…] - ETA: 0s - loss: 0.1497
 715/1148 [=================>…] - ETA: 0s - loss: 0.0750
 180/1149 [===>…] - ETA: 0s - loss: 0.1706
 370/1149 [========>…] - ETA: 0s - loss: 0.1293
1065/1149 [=========================>…] - ETA: 0s - loss: 0.1431
 595/1149 [==============>…] - ETA: 0s - loss: 0.1297
 940/1149 [=======================>…] - ETA: 0s - loss: 0.1162
 970/1149 [=======================>…] - ETA: 0s - loss: 0.1477
 810/1148 [===================>…] - ETA: 0s - loss: 0.0740
 380/1149 [========>…] - ETA: 0s - loss: 0.1602
 450/1149 [==========>…] - ETA: 0s - loss: 0.1195
1149/1149 [==============================] - 1s 543us/step - loss: 0.1407
Epoch 8/20

   5/1149 […] - ETA: 0s - loss: 0.1191
 695/1149 [=================>…] - ETA: 0s - loss: 0.1283
1045/1149 [=========================>…] - ETA: 0s - loss: 0.1163
1140/1149 [============================>.] - ETA: 0s - loss: 0.1447
1149/1149 [==============================] - 0s 276us/step - loss: 0.1440
Epoch 5/5

  10/1149 […] - ETA: 0s - loss: 0.1614
 900/1148 [=====================>…] - ETA: 0s - loss: 0.0746
 535/1149 [===========>…] - ETA: 0s - loss: 0.1201
 590/1149 [==============>…] - ETA: 0s - loss: 0.1559
 110/1149 [=>…] - ETA: 0s - loss: 0.0812
 775/1149 [==================>…] - ETA: 0s - loss: 0.1234
1140/1149 [============================>.] - ETA: 0s - loss: 0.1153
1149/1149 [==============================] - 1s 554us/step - loss: 0.1159
Epoch 13/20
```

```
   5/1149 […] - ETA: 0s - loss: 0.1025
 180/1149 [===>…] - ETA: 0s - loss: 0.1332
 990/1148 [=====================>…] - ETA: 0s - loss: 0.0754
 615/1149 [==============>…] - ETA: 0s - loss: 0.1228
 760/1149 [==================>…] - ETA: 0s - loss: 0.1472
 840/1149 [====================>…] - ETA: 0s - loss: 0.1223
  90/1149 [=>…] - ETA: 0s - loss: 0.0879
 210/1149 [====>…] - ETA: 0s - loss: 0.1332
 360/1149 [========>…] - ETA: 0s - loss: 0.1285
1080/1148 [==========================>..] - ETA: 0s - loss: 0.0785
 720/1149 [=================>…] - ETA: 0s - loss: 0.1215
 960/1149 [=======================>…] - ETA: 0s - loss: 0.1461
 940/1149 [=======================>…] - ETA: 0s - loss: 0.1202
 190/1149 [===>…] - ETA: 0s - loss: 0.0865
 285/1149 [======>…] - ETA: 0s - loss: 0.1366
1148/1148 [=============================] - 1s 524us/step - loss: 0.0789
Epoch 20/20

   5/1148 […] - ETA: 0s - loss: 0.1049
 560/1149 [=============>…] - ETA: 0s - loss: 0.1208
1149/1149 [=============================] - 0s 265us/step - loss: 0.1467


 820/1149 [====================>…] - ETA: 0s - loss: 0.1256
1045/1149 [==========================>…] - ETA: 0s - loss: 0.1203
 290/1149 [======>…] - ETA: 0s - loss: 0.0983
 355/1149 [========>…] - ETA: 0s - loss: 0.1274
  95/1148 [=>…] - ETA: 0s - loss: 0.0657
 750/1149 [==================>…] - ETA: 0s - loss: 0.1253
 925/1149 [======================>…] - ETA: 0s - loss: 0.1248
1135/1149 [============================>.] - ETA: 0s - loss: 0.1311
 455/1149 [==========>…] - ETA: 0s - loss: 0.1299
1149/1149 [=============================] - 1s 548us/step - loss: 0.1309


 385/1149 [=========>…] - ETA: 0s - loss: 0.1045Epoch 9/20

   5/1149 […] - ETA: 0s - loss: 0.0667
 180/1148 [===>…] - ETA: 0s - loss: 0.0664
 990/1149 [=======================>…] - ETA: 0s - loss: 0.1294
1035/1149 [==========================>…] - ETA: 0s - loss: 0.1234
 565/1149 [=============>…] - ETA: 0s - loss: 0.1255
 480/1149 [==========>…] - ETA: 0s - loss: 0.1051
 105/1149 [=>…] - ETA: 0s - loss: 0.1016
1149/1149 [=============================] - 0s 264us/step - loss: 0.1339


 290/1148 [======>…] - ETA: 0s - loss: 0.0694
1140/1149 [============================>.] - ETA: 0s - loss: 0.1211
1149/1149 [=============================] - 1s 547us/step - loss: 0.1210
Epoch 14/20
```

```
   5/1149 […] - ETA: 0s - loss: 0.1389
 690/1149 [================>…] - ETA: 0s - loss: 0.1280
 215/1149 [====>…] - ETA: 0s - loss: 0.0922
 575/1149 [=============>…] - ETA: 0s - loss: 0.1036
 360/1148 [========>…] - ETA: 0s - loss: 0.0684
 110/1149 [=>…] - ETA: 0s - loss: 0.1090
 800/1149 [==================>…] - ETA: 0s - loss: 0.1287
 690/1149 [================>…] - ETA: 0s - loss: 0.1078
 340/1149 [=======>…] - ETA: 0s - loss: 0.0894
 435/1148 [==========>…] - ETA: 0s - loss: 0.0701
 210/1149 [====>…] - ETA: 0s - loss: 0.1112
 915/1149 [=====================>…] - ETA: 0s - loss: 0.1298
 800/1149 [==================>…] - ETA: 0s - loss: 0.1078
 455/1149 [==========>…] - ETA: 0s - loss: 0.0962
 525/1148 [============>…] - ETA: 0s - loss: 0.0724
 300/1149 [======>…] - ETA: 0s - loss: 0.1121
1015/1149 [=======================>…] - ETA: 0s - loss: 0.1301
 900/1149 [=====================>…] - ETA: 0s - loss: 0.1098
 550/1149 [============>…] - ETA: 0s - loss: 0.1039
 615/1148 [===============>…] - ETA: 0s - loss: 0.0737
 385/1149 [=========>…] - ETA: 0s - loss: 0.1311
1105/1149 [==========================>..] - ETA: 0s - loss: 0.1388
 980/1149 [=======================>…] - ETA: 0s - loss: 0.1093
 650/1149 [==============>…] - ETA: 0s - loss: 0.1222
 685/1148 [===============>…] - ETA: 0s - loss: 0.0736
1149/1149 [=============================] - 1s 530us/step - loss: 0.1369
Epoch 9/20

   5/1149 […] - ETA: 0s - loss: 0.0977
 470/1149 [==========>…] - ETA: 0s - loss: 0.1258
1065/1149 [=========================>…] - ETA: 0s - loss: 0.1085
 735/1149 [=================>…] - ETA: 0s - loss: 0.1251
 775/1148 [==================>…] - ETA: 0s - loss: 0.0792
  90/1149 [=>…] - ETA: 0s - loss: 0.2138
 560/1149 [=============>…] - ETA: 0s - loss: 0.1311
1149/1149 [=============================] - 1s 533us/step - loss: 0.1147
Epoch 14/20

   5/1149 […] - ETA: 0s - loss: 0.0917
 825/1149 [==================>…] - ETA: 0s - loss: 0.1229
 870/1148 [===================>…] - ETA: 0s - loss: 0.0793
 185/1149 [===>…] - ETA: 0s - loss: 0.1713
 665/1149 [===============>…] - ETA: 0s - loss: 0.1247
 110/1149 [=>…] - ETA: 0s - loss: 0.1389
 910/1149 [=====================>…] - ETA: 0s - loss: 0.1193
 945/1148 [=====================>…] - ETA: 0s - loss: 0.0775Epoch 1/5
```

```
  10/1149 […] - ETA: 50s - loss: 1.0361
 275/1149 [======>…] - ETA: 0s - loss: 0.1515
 745/1149 [=================>…] - ETA: 0s - loss: 0.1226
 205/1149 [====>…] - ETA: 0s - loss: 0.1372
1025/1149 [=======================>…] - ETA: 0s - loss: 0.1335
1035/1148 [==========================>…] - ETA: 0s - loss: 0.0778
 375/1149 [========>…] - ETA: 0s - loss: 0.1457
 160/1149 [===>…] - ETA: 3s - loss: 1.3224
 850/1149 [===================>…] - ETA: 0s - loss: 0.1199
 305/1149 [======>…] - ETA: 0s - loss: 0.1271
1110/1149 [==========================>..] - ETA: 0s - loss: 0.1317
1140/1148 [===========================>.] - ETA: 0s - loss: 0.0784
1148/1148 [=============================] - 1s 591us/step - loss: 0.0784

 450/1149 [==========>…] - ETA: 0s - loss: 0.1451
1149/1149 [=============================] - 1s 511us/step - loss: 0.1296
Epoch 10/20

   5/1149 […] - ETA: 0s - loss: 0.0541
 955/1149 [=======================>…] - ETA: 0s - loss: 0.1203
 330/1149 [=======>…] - ETA: 1s - loss: 1.2549
 395/1149 [=========>…] - ETA: 0s - loss: 0.1206
 550/1149 [=============>…] - ETA: 0s - loss: 0.1366
 105/1149 [=>…] - ETA: 0s - loss: 0.1915
1065/1149 [========================>…] - ETA: 0s - loss: 0.1193
 500/1149 [===========>…] - ETA: 0s - loss: 1.1846
 515/1149 [===========>…] - ETA: 0s - loss: 0.1163
1149/1149 [=============================] - 1s 527us/step - loss: 0.1199

 650/1149 [===============>…] - ETA: 0s - loss: 0.1359Epoch 15/20

   5/1149 […] - ETA: 0s - loss: 0.1606
 205/1149 [====>…] - ETA: 0s - loss: 0.1497Epoch 1/10

  10/1148 […] - ETA: 46s - loss: 0.3887
 670/1149 [===============>…] - ETA: 0s - loss: 1.1280
 620/1149 [===============>…] - ETA: 0s - loss: 0.1152
  95/1149 [=>…] - ETA: 0s - loss: 0.0936
 760/1149 [=================>…] - ETA: 0s - loss: 0.1306
 310/1149 [=======>…] - ETA: 0s - loss: 0.1370
 100/1148 [=>…] - ETA: 4s - loss: 0.3766
 910/1149 [====================>…] - ETA: 0s - loss: 1.1052
 725/1149 [=================>…] - ETA: 0s - loss: 0.1172
 185/1149 [===>…] - ETA: 0s - loss: 0.1076
 860/1149 [====================>…] - ETA: 0s - loss: 0.1318
 400/1149 [=========>…] - ETA: 0s - loss: 0.1247
 260/1148 [=====>…] - ETA: 1s - loss: 0.3921
1140/1149 [===========================>.] - ETA: 0s - loss: 1.0794
```

```
1149/1149 [==============================] - 1s 672us/step - loss: 1.0738
Epoch 2/5

  10/1149 [...] - ETA: 0s - loss: 0.6032
 820/1149 [====================>...] - ETA: 0s - loss: 0.1139
 270/1149 [======>...] - ETA: 0s - loss: 0.1101
 950/1149 [=======================>...] - ETA: 0s - loss: 0.1306
 485/1149 [==========>...] - ETA: 0s - loss: 0.1257
 400/1148 [========>...] - ETA: 1s - loss: 0.3751
 180/1149 [===>...] - ETA: 0s - loss: 0.9451
 910/1149 [=====================>...] - ETA: 0s - loss: 0.1126
 365/1149 [========>...] - ETA: 0s - loss: 0.1043
1040/1149 [==========================>...] - ETA: 0s - loss: 0.1369
 580/1149 [=============>...] - ETA: 0s - loss: 0.1215
 530/1148 [===========>...] - ETA: 0s - loss: 0.3784
1005/1149 [========================>...] - ETA: 0s - loss: 0.1164
 360/1149 [========>...] - ETA: 0s - loss: 1.0106
 455/1149 [==========>...] - ETA: 0s - loss: 0.1095
1130/1149 [============================>.] - ETA: 0s - loss: 0.1354
 680/1149 [===============>...] - ETA: 0s - loss: 0.1205
1149/1149 [==============================] - 1s 552us/step - loss: 0.1340
Epoch 10/20

   5/1149 [...] - ETA: 0s - loss: 0.2160
 650/1148 [==============>...] - ETA: 0s - loss: 0.3657
1110/1149 [===========================>..] - ETA: 0s - loss: 0.1131
 540/1149 [=============>...] - ETA: 0s - loss: 0.9414
1149/1149 [==============================] - 1s 510us/step - loss: 0.1126
Epoch 15/20

   5/1149 [...] - ETA: 0s - loss: 0.0493
 555/1149 [=============>...] - ETA: 0s - loss: 0.1088
 795/1149 [===================>...] - ETA: 0s - loss: 0.1176
  85/1149 [=>...] - ETA: 0s - loss: 0.1083
 760/1148 [==================>...] - ETA: 0s - loss: 0.3505
 710/1149 [================>...] - ETA: 0s - loss: 0.8527
 115/1149 [==>...] - ETA: 0s - loss: 0.1333
 660/1149 [===============>...] - ETA: 0s - loss: 0.1058
 890/1149 [=====================>...] - ETA: 0s - loss: 0.1326
 185/1149 [===>...] - ETA: 0s - loss: 0.1564
 910/1148 [=====================>...] - ETA: 0s - loss: 0.3389
 900/1149 [=====================>...] - ETA: 0s - loss: 0.8336Epoch 1/10

  10/1149 [...] - ETA: 53s - loss: 0.5814
 220/1149 [====>...] - ETA: 0s - loss: 0.1130
 750/1149 [==================>...] - ETA: 0s - loss: 0.1018
1005/1149 [========================>...] - ETA: 0s - loss: 0.1277
 295/1149 [======>...] - ETA: 0s - loss: 0.1410
```

```
1080/1148 [============================>..] - ETA: 0s - loss: 0.3238
1120/1149 [============================>.] - ETA: 0s - loss: 0.8101
1148/1148 [==============================] - 1s 738us/step - loss: 0.3183
Epoch 2/10

  10/1148 [...] - ETA: 0s - loss: 0.1118
1149/1149 [==============================] - 0s 282us/step - loss: 0.8063
Epoch 3/5

  10/1149 [...] - ETA: 0s - loss: 0.1483
 320/1149 [=======>...] - ETA: 0s - loss: 0.1141
  90/1149 [=>...] - ETA: 6s - loss: 1.5713
 860/1149 [====================>...] - ETA: 0s - loss: 0.0997
1100/1149 [===========================>..] - ETA: 0s - loss: 0.1302
 395/1149 [=========>...] - ETA: 0s - loss: 0.1488
1149/1149 [==============================] - 1s 514us/step - loss: 0.1278
Epoch 11/20

   5/1149 [...] - ETA: 0s - loss: 0.3529
 220/1148 [====>...] - ETA: 0s - loss: 0.1698
 210/1149 [====>...] - ETA: 0s - loss: 0.6985
 435/1149 [==========>...] - ETA: 0s - loss: 0.1215
 140/1149 [==>...] - ETA: 4s - loss: 1.4046
 960/1149 [=======================>...] - ETA: 0s - loss: 0.1078
 485/1149 [==========>...] - ETA: 0s - loss: 0.1417
 105/1149 [=>...] - ETA: 0s - loss: 0.1138
 400/1148 [========>...] - ETA: 0s - loss: 0.1612
 430/1149 [=========>...] - ETA: 0s - loss: 0.5795
 535/1149 [============>...] - ETA: 0s - loss: 0.1149
 250/1149 [=====>...] - ETA: 2s - loss: 1.2700
1050/1149 [==========================>...] - ETA: 0s - loss: 0.1149
 580/1149 [==============>...] - ETA: 0s - loss: 0.1330
 205/1149 [====>...] - ETA: 0s - loss: 0.1242
 590/1148 [==============>...] - ETA: 0s - loss: 0.1799
 635/1149 [===============>...] - ETA: 0s - loss: 0.1163
 620/1149 [===============>...] - ETA: 0s - loss: 0.5105
1149/1149 [==============================] - 1s 533us/step - loss: 0.1189

 360/1149 [========>...] - ETA: 1s - loss: 1.2382Epoch 16/20

   5/1149 [...] - ETA: 0s - loss: 0.0824
 680/1149 [================>...] - ETA: 0s - loss: 0.1341
 315/1149 [=======>...] - ETA: 0s - loss: 0.1365
 750/1148 [==================>...] - ETA: 0s - loss: 0.1744
 735/1149 [==================>...] - ETA: 0s - loss: 0.1134
 840/1149 [====================>...] - ETA: 0s - loss: 0.4755
 115/1149 [==>...] - ETA: 0s - loss: 0.1396
 440/1149 [=========>...] - ETA: 1s - loss: 1.2289Epoch 1/10
```

```
  10/1149 […] - ETA: 48s - loss: 1.3007
 795/1149 [==================>…] - ETA: 0s - loss: 0.1285
 415/1149 [=========>…] - ETA: 0s - loss: 0.1332
 980/1148 [=======================>…] - ETA: 0s - loss: 0.1630
 830/1149 [===================>…] - ETA: 0s - loss: 0.1125
1020/1149 [=========================>…] - ETA: 0s - loss: 0.4564
 590/1149 [=============>…] - ETA: 0s - loss: 1.2202
 200/1149 [====>…] - ETA: 0s - loss: 0.1217
 130/1149 [==>…] - ETA: 3s - loss: 1.0017
 900/1149 [=====================>…] - ETA: 0s - loss: 0.1267
 505/1149 [===========>…] - ETA: 0s - loss: 0.1244
1148/1148 [=============================] - 0s 273us/step - loss: 0.1589
Epoch 3/10

  10/1148 […] - ETA: 0s - loss: 0.2362
 920/1149 [======================>…] - ETA: 0s - loss: 0.1096
1149/1149 [=============================] - 0s 275us/step - loss: 0.4282
Epoch 4/5

  10/1149 […] - ETA: 0s - loss: 0.3304
 290/1149 [======>…] - ETA: 0s - loss: 0.1262
 830/1149 [===================>…] - ETA: 0s - loss: 1.1713
 200/1149 [====>…] - ETA: 2s - loss: 1.1959
 985/1149 [=======================>…] - ETA: 0s - loss: 0.1337
 585/1149 [=============>…] - ETA: 0s - loss: 0.1496
 240/1148 [=====>…] - ETA: 0s - loss: 0.1065
1020/1149 [=========================>…] - ETA: 0s - loss: 0.1132
 200/1149 [====>…] - ETA: 0s - loss: 0.2187
 980/1149 [=======================>…] - ETA: 0s - loss: 1.1595
 390/1149 [========>…] - ETA: 0s - loss: 0.1190
 310/1149 [=======>…] - ETA: 1s - loss: 1.1164
1080/1149 [==========================>..] - ETA: 0s - loss: 0.1334
 670/1149 [===============>…] - ETA: 0s - loss: 0.1457
 440/1148 [=========>…] - ETA: 0s - loss: 0.1227
1105/1149 [==========================>..] - ETA: 0s - loss: 0.1141
1149/1149 [=============================] - 1s 816us/step - loss: 1.1537

 420/1149 [=========>…] - ETA: 0s - loss: 0.2313Epoch 2/10

  10/1149 […] - ETA: 0s - loss: 0.2773
 480/1149 [==========>…] - ETA: 0s - loss: 0.1159
1149/1149 [=============================] - 1s 528us/step - loss: 0.1297
Epoch 11/20

   5/1149 […] - ETA: 0s - loss: 0.0766
1149/1149 [=============================] - 1s 509us/step - loss: 0.1117
Epoch 16/20
```

```
   5/1149 […] - ETA: 0s - loss: 0.2046
 430/1149 [=========>…] - ETA: 1s - loss: 1.2296
 765/1149 [=================>…] - ETA: 0s - loss: 0.1380
 640/1148 [==============>…] - ETA: 0s - loss: 0.1376
 620/1149 [==============>…] - ETA: 0s - loss: 0.2563
 570/1149 [============>…] - ETA: 0s - loss: 0.1182
 180/1149 [===>…] - ETA: 0s - loss: 0.7068
 115/1149 [==>…] - ETA: 0s - loss: 0.1288
 110/1149 [=>…] - ETA: 0s - loss: 0.0653
 540/1149 [============>…] - ETA: 0s - loss: 1.1602
 855/1149 [====================>…] - ETA: 0s - loss: 0.1364
 800/1148 [==================>…] - ETA: 0s - loss: 0.1365
 830/1149 [==================>…] - ETA: 0s - loss: 0.2394
 665/1149 [================>…] - ETA: 0s - loss: 0.1130
 330/1149 [=======>…] - ETA: 0s - loss: 0.8044
 205/1149 [====>…] - ETA: 0s - loss: 0.1260
 195/1149 [====>…] - ETA: 0s - loss: 0.0770
 650/1149 [==============>…] - ETA: 0s - loss: 1.1155
 960/1149 [=======================>…] - ETA: 0s - loss: 0.1306
1010/1148 [=======================>…] - ETA: 0s - loss: 0.1315
 755/1149 [=================>…] - ETA: 0s - loss: 0.1102
1040/1149 [==========================>…] - ETA: 0s - loss: 0.2260
 530/1149 [===========>…] - ETA: 0s - loss: 0.7498
 305/1149 [======>…] - ETA: 0s - loss: 0.1279
 290/1149 [======>…] - ETA: 0s - loss: 0.0835
 770/1149 [=================>…] - ETA: 0s - loss: 1.2293
1060/1149 [==========================>…] - ETA: 0s - loss: 0.1290
1148/1148 [=============================] - 0s 260us/step - loss: 0.1287

1149/1149 [=============================] - 0s 255us/step - loss: 0.2231
Epoch 5/5

  10/1149 […] - ETA: 0s - loss: 0.1174Epoch 4/10

  10/1148 […] - ETA: 0s - loss: 0.0660
 850/1149 [====================>…] - ETA: 0s - loss: 0.1175
 740/1149 [=================>…] - ETA: 0s - loss: 0.8111
 415/1149 [========>…] - ETA: 0s - loss: 0.1263
 385/1149 [========>…] - ETA: 0s - loss: 0.0923
1149/1149 [=============================] - 1s 534us/step - loss: 0.1259
Epoch 12/20

   5/1149 […] - ETA: 0s - loss: 0.1813
 890/1149 [====================>…] - ETA: 0s - loss: 1.1729
 200/1149 [====>…] - ETA: 0s - loss: 0.2009
 190/1148 [===>…] - ETA: 0s - loss: 0.1097
 935/1149 [=====================>…] - ETA: 0s - loss: 0.1141
```

```
 940/1149 [=======================>…] - ETA: 0s - loss: 0.7912
 510/1149 [===========>…] - ETA: 0s - loss: 0.1253
 465/1149 [==========>…] - ETA: 0s - loss: 0.0927
 105/1149 [=>…] - ETA: 0s - loss: 0.1350
1000/1149 [========================>…] - ETA: 0s - loss: 1.1562
 400/1149 [========>…] - ETA: 0s - loss: 0.1894
 390/1148 [========>…] - ETA: 0s - loss: 0.1148
1025/1149 [========================>…] - ETA: 0s - loss: 0.1224
1020/1149 [========================>…] - ETA: 0s - loss: 0.7756
 605/1149 [=============>…] - ETA: 0s - loss: 0.1202
 550/1149 [=============>…] - ETA: 0s - loss: 0.0960
 205/1149 [====>…] - ETA: 0s - loss: 0.1222
 580/1148 [=============>…] - ETA: 0s - loss: 0.1218
 620/1149 [=============>…] - ETA: 0s - loss: 0.1740
1130/1149 [============================>.] - ETA: 0s - loss: 1.1477
1149/1149 [=============================] - 1s 848us/step - loss: 1.1512
Epoch 2/10

  10/1149 […] - ETA: 0s - loss: 0.8910
1120/1149 [============================>.] - ETA: 0s - loss: 0.1188
1149/1149 [=============================] - 0s 322us/step - loss: 0.7164


 715/1149 [=================>…] - ETA: 0s - loss: 0.1159Epoch 3/10

  10/1149 […] - ETA: 0s - loss: 0.1715
1149/1149 [=============================] - 1s 558us/step - loss: 0.1179


 655/1149 [===============>…] - ETA: 0s - loss: 0.0982Epoch 17/20

   5/1149 […] - ETA: 1s - loss: 0.1732
 310/1149 [=======>…] - ETA: 0s - loss: 0.1209
 790/1149 [===================>…] - ETA: 0s - loss: 0.1790
 780/1148 [===================>…] - ETA: 0s - loss: 0.1186
 200/1149 [====>…] - ETA: 0s - loss: 1.2454
 805/1149 [===================>…] - ETA: 0s - loss: 0.1208
 230/1149 [=====>…] - ETA: 0s - loss: 0.2886
 730/1149 [=================>…] - ETA: 0s - loss: 0.0962
  90/1149 [=>…] - ETA: 0s - loss: 0.1107
 400/1149 [========>…] - ETA: 0s - loss: 0.1135
 930/1148 [======================>…] - ETA: 0s - loss: 0.1157
 990/1149 [=======================>…] - ETA: 0s - loss: 0.1717
 440/1149 [=========>…] - ETA: 0s - loss: 1.0203
 895/1149 [=====================>…] - ETA: 0s - loss: 0.1240
 440/1149 [=========>…] - ETA: 0s - loss: 0.2959
 830/1149 [==================>…] - ETA: 0s - loss: 0.0990
 165/1149 [===>…] - ETA: 0s - loss: 0.0926
 485/1149 [==========>…] - ETA: 0s - loss: 0.1065
1149/1149 [=============================] - 0s 268us/step - loss: 0.1646
```

```
1110/1148 [============================>.] - ETA: 0s - loss: 0.1140
1148/1148 [==============================] - 0s 280us/step - loss: 0.1131

 640/1149 [==============>…] - ETA: 0s - loss: 0.9621Epoch 5/10

  10/1148 […] - ETA: 0s - loss: 0.1266
 990/1149 [=======================>…] - ETA: 0s - loss: 0.1225
 670/1149 [==============>…] - ETA: 0s - loss: 0.2526
 910/1149 [=====================>…] - ETA: 0s - loss: 0.1043
 265/1149 [=====>…] - ETA: 0s - loss: 0.0856
 575/1149 [=============>…] - ETA: 0s - loss: 0.1041
 850/1149 [====================>…] - ETA: 0s - loss: 0.8683
 200/1148 [====>…] - ETA: 0s - loss: 0.1396
1095/1149 [==========================>..] - ETA: 0s - loss: 0.1287
 850/1149 [====================>…] - ETA: 0s - loss: 0.2499
1010/1149 [========================>…] - ETA: 0s - loss: 0.1106
 380/1149 [========>…] - ETA: 0s - loss: 0.0868
 685/1149 [===============>…] - ETA: 0s - loss: 0.1192
1149/1149 [==============================] - 1s 521us/step - loss: 0.1267
Epoch 12/20

   5/1149 […] - ETA: 0s - loss: 0.0034
1050/1149 [==========================>…] - ETA: 0s - loss: 0.8360
 400/1148 [========>…] - ETA: 0s - loss: 0.1276
1040/1149 [=========================>…] - ETA: 0s - loss: 0.2285
1149/1149 [==============================] - 0s 249us/step - loss: 0.8047
Epoch 3/10

  10/1149 […] - ETA: 0s - loss: 0.7805
1110/1149 [===========================>..] - ETA: 0s - loss: 0.1127
 475/1149 [==========>…] - ETA: 0s - loss: 0.0822
 795/1149 [==================>…] - ETA: 0s - loss: 0.1179
 105/1149 [=>…] - ETA: 0s - loss: 0.2004
1149/1149 [==============================] - 1s 565us/step - loss: 0.1126

 610/1148 [=============>…] - ETA: 0s - loss: 0.1150Epoch 17/20

   5/1149 […] - ETA: 0s - loss: 0.1401
1149/1149 [==============================] - 0s 258us/step - loss: 0.2255
Epoch 4/10

  10/1149 […] - ETA: 0s - loss: 0.0761
 210/1149 [====>…] - ETA: 0s - loss: 0.3887
 565/1149 [=============>…] - ETA: 0s - loss: 0.0943
 895/1149 [=====================>…] - ETA: 0s - loss: 0.1192
 180/1149 [===>…] - ETA: 0s - loss: 0.1567
 780/1148 [==================>…] - ETA: 0s - loss: 0.1128
```

```
 105/1149 [=>…] - ETA: 0s - loss: 0.1389
 180/1149 [===>…] - ETA: 0s - loss: 0.1439
 430/1149 [=========>…] - ETA: 0s - loss: 0.3882
 665/1149 [===============>…] - ETA: 0s - loss: 0.0947
 990/1149 [=======================>…] - ETA: 0s - loss: 0.1231
 270/1149 [======>…] - ETA: 0s - loss: 0.1467
 980/1148 [=======================>…] - ETA: 0s - loss: 0.1076
 190/1149 [===>…] - ETA: 0s - loss: 0.1367
 360/1149 [=======>…] - ETA: 0s - loss: 0.1640
 630/1149 [==============>…] - ETA: 0s - loss: 0.3785
 755/1149 [=================>…] - ETA: 0s - loss: 0.1010
1080/1149 [==========================>..] - ETA: 0s - loss: 0.1226
1148/1148 [==============================] - 0s 267us/step - loss: 0.1058


 365/1149 [========>…] - ETA: 0s - loss: 0.1320Epoch 6/10


  10/1148 […] - ETA: 0s - loss: 0.2158
 285/1149 [======>…] - ETA: 0s - loss: 0.1172
 550/1149 [=============>…] - ETA: 0s - loss: 0.1504
1149/1149 [==============================] - 1s 535us/step - loss: 0.1250
Epoch 13/20


   5/1149 […] - ETA: 0s - loss: 0.4398
 810/1149 [====================>…] - ETA: 0s - loss: 0.4018
 850/1149 [=====================>…] - ETA: 0s - loss: 0.1037
 460/1149 [==========>…] - ETA: 0s - loss: 0.1308
 200/1148 [====>…] - ETA: 0s - loss: 0.1103
 380/1149 [========>…] - ETA: 0s - loss: 0.1178
 740/1149 [==================>…] - ETA: 0s - loss: 0.1385
  95/1149 [=>…] - ETA: 0s - loss: 0.1299
 945/1149 [======================>…] - ETA: 0s - loss: 0.1068
 980/1149 [=======================>…] - ETA: 0s - loss: 0.3672
 560/1149 [=============>…] - ETA: 0s - loss: 0.1273
 400/1148 [=========>…] - ETA: 0s - loss: 0.1095
 485/1149 [==========>…] - ETA: 0s - loss: 0.1057
 940/1149 [======================>…] - ETA: 0s - loss: 0.1400
 190/1149 [===>…] - ETA: 0s - loss: 0.1336
1055/1149 [==========================>…] - ETA: 0s - loss: 0.1090
1110/1149 [==========================>..] - ETA: 0s - loss: 0.3444
 665/1149 [===============>…] - ETA: 0s - loss: 0.1240
1149/1149 [==============================] - 0s 288us/step - loss: 0.3361
Epoch 4/10


  10/1149 […] - ETA: 0s - loss: 0.1277
 600/1148 [=============>…] - ETA: 0s - loss: 0.1075
 590/1149 [=============>…] - ETA: 0s - loss: 0.1102
1149/1149 [==============================] - 0s 273us/step - loss: 0.1356
Epoch 5/10
```

```
   10/1149 […] - ETA: 0s - loss: 0.0538
1149/1149 [==============================] - 1s 539us/step - loss: 0.1154
Epoch 18/20

    5/1149 […] - ETA: 0s - loss: 0.0373
  295/1149 [======>…] - ETA: 0s - loss: 0.1416
  770/1149 [==================>…] - ETA: 0s - loss: 0.1191
  800/1148 [==================>…] - ETA: 0s - loss: 0.1043
  170/1149 [===>…] - ETA: 0s - loss: 0.1813
  690/1149 [================>…] - ETA: 0s - loss: 0.1087
  180/1149 [===>…] - ETA: 0s - loss: 0.1038
  400/1149 [========>…] - ETA: 0s - loss: 0.1340
  115/1149 [==>…] - ETA: 0s - loss: 0.1073
  875/1149 [====================>…] - ETA: 0s - loss: 0.1223
  380/1149 [========>…] - ETA: 0s - loss: 0.1826
  880/1148 [===================>…] - ETA: 0s - loss: 0.1036
  805/1149 [===================>…] - ETA: 0s - loss: 0.1060
  340/1149 [=======>…] - ETA: 0s - loss: 0.1045
  210/1149 [====>…] - ETA: 0s - loss: 0.1110
  500/1149 [===========>…] - ETA: 0s - loss: 0.1353
  980/1149 [=======================>…] - ETA: 0s - loss: 0.1264
  580/1149 [==============>…] - ETA: 0s - loss: 0.1681
 1010/1148 [========================>…] - ETA: 0s - loss: 0.1033
  905/1149 [=====================>…] - ETA: 0s - loss: 0.1052
  510/1149 [===========>…] - ETA: 0s - loss: 0.1000
  300/1149 [======>…] - ETA: 0s - loss: 0.1169
  595/1149 [==============>…] - ETA: 0s - loss: 0.1367
 1148/1148 [==============================] - 0s 303us/step - loss: 0.1018
Epoch 7/10

   10/1148 […] - ETA: 0s - loss: 0.0506
 1075/1149 [===========================>..] - ETA: 0s - loss: 0.1269
  780/1149 [==================>…] - ETA: 0s - loss: 0.1635
  990/1149 [=======================>…] - ETA: 0s - loss: 0.1059
  690/1149 [================>…] - ETA: 0s - loss: 0.1059
  375/1149 [========>…] - ETA: 0s - loss: 0.1099
  680/1149 [================>…] - ETA: 0s - loss: 0.1270
 1149/1149 [==============================] - 1s 529us/step - loss: 0.1255

  280/1148 [======>…] - ETA: 0s - loss: 0.0921Epoch 13/20

    5/1149 […] - ETA: 1s - loss: 0.0203
  960/1149 [=======================>…] - ETA: 0s - loss: 0.1759
 1070/1149 [==========================>…] - ETA: 0s - loss: 0.1083
  890/1149 [=====================>…] - ETA: 0s - loss: 0.1125
  760/1149 [==================>…] - ETA: 0s - loss: 0.1231
  445/1149 [=========>…] - ETA: 0s - loss: 0.1082
```

```
 550/1148 [=============>…] - ETA: 0s - loss: 0.0987
 100/1149 [=>…] - ETA: 0s - loss: 0.1699
1149/1149 [==============================] - 0s 266us/step - loss: 0.1698
Epoch 5/10

  10/1149 […] - ETA: 0s - loss: 0.0642
1149/1149 [==============================] - 1s 542us/step - loss: 0.1102
Epoch 18/20

   5/1149 […] - ETA: 0s - loss: 0.1120
1070/1149 [==========================>…] - ETA: 0s - loss: 0.1282Epoch 1/10

  10/1149 […] - ETA: 46s - loss: 0.6667
 850/1149 [=====================>…] - ETA: 0s - loss: 0.1212
 540/1149 [=============>…] - ETA: 0s - loss: 0.1286
1149/1149 [==============================] - 0s 293us/step - loss: 0.1268
Epoch 6/10

  10/1149 […] - ETA: 0s - loss: 0.0324
 730/1148 [==================>…] - ETA: 0s - loss: 0.0972
 195/1149 [====>…] - ETA: 0s - loss: 0.1544
 200/1149 [====>…] - ETA: 0s - loss: 0.1835
 100/1149 [=>…] - ETA: 0s - loss: 0.0986
 140/1149 [==>…] - ETA: 3s - loss: 0.9643
 940/1149 [=======================>…] - ETA: 0s - loss: 0.1313
 635/1149 [===============>…] - ETA: 0s - loss: 0.1278
 930/1148 [=======================>…] - ETA: 0s - loss: 0.0985
 190/1149 [===>…] - ETA: 0s - loss: 0.0947
 290/1149 [======>…] - ETA: 0s - loss: 0.1380
 400/1149 [=========>…] - ETA: 0s - loss: 0.1600
 190/1149 [===>…] - ETA: 0s - loss: 0.0970
 280/1149 [======>…] - ETA: 1s - loss: 0.9212
1035/1149 [=========================>…] - ETA: 0s - loss: 0.1277
 740/1149 [==================>…] - ETA: 0s - loss: 0.1258
1120/1148 [============================>.] - ETA: 0s - loss: 0.0993
 350/1149 [========>…] - ETA: 0s - loss: 0.0999
 380/1149 [========>…] - ETA: 0s - loss: 0.1288
1148/1148 [==============================] - 0s 233us/step - loss: 0.0984

 590/1149 [=============>…] - ETA: 0s - loss: 0.1478Epoch 8/10

  10/1148 […] - ETA: 0s - loss: 0.1783
 285/1149 [======>…] - ETA: 0s - loss: 0.1167
 400/1149 [=========>…] - ETA: 1s - loss: 1.1090
1125/1149 [===========================>.] - ETA: 0s - loss: 0.1238
 850/1149 [=====================>…] - ETA: 0s - loss: 0.1212
 530/1149 [============>…] - ETA: 0s - loss: 0.1305
 480/1149 [==========>…] - ETA: 0s - loss: 0.1214
```

```
1149/1149 [==============================] - 1s 554us/step - loss: 0.1237

 800/1149 [===================>…] - ETA: 0s - loss: 0.1434
 190/1148 [===>…] - ETA: 0s - loss: 0.1052Epoch 14/20

   5/1149 […] - ETA: 0s - loss: 0.0260
 385/1149 [=========>…] - ETA: 0s - loss: 0.1153
 960/1149 [========================>…] - ETA: 0s - loss: 0.1152
 500/1149 [===========>…] - ETA: 0s - loss: 1.1070
 720/1149 [=================>…] - ETA: 0s - loss: 0.1213
 580/1149 [==============>…] - ETA: 0s - loss: 0.1244
 980/1149 [========================>…] - ETA: 0s - loss: 0.1369
 380/1148 [========>…] - ETA: 0s - loss: 0.0987
 110/1149 [=>…] - ETA: 0s - loss: 0.0999
 480/1149 [===========>…] - ETA: 0s - loss: 0.1069
1035/1149 [==========================>…] - ETA: 0s - loss: 0.1175
1149/1149 [==============================] - 0s 266us/step - loss: 0.1394

 940/1149 [=======================>…] - ETA: 0s - loss: 0.1275
 600/1149 [==============>…] - ETA: 0s - loss: 1.1445Epoch 6/10

  10/1149 […] - ETA: 0s - loss: 0.1202
 670/1149 [================>…] - ETA: 0s - loss: 0.1231
 570/1148 [=============>…] - ETA: 0s - loss: 0.0933
 215/1149 [====>…] - ETA: 0s - loss: 0.1003
 580/1149 [==============>…] - ETA: 0s - loss: 0.1084
1120/1149 [=============================>.] - ETA: 0s - loss: 0.1178
1149/1149 [==============================] - 0s 274us/step - loss: 0.1244

 740/1149 [=================>…] - ETA: 0s - loss: 1.1962
 200/1149 [====>…] - ETA: 0s - loss: 0.1286
1149/1149 [==============================] - 1s 553us/step - loss: 0.1157

 780/1149 [===================>…] - ETA: 0s - loss: 0.1237Epoch 7/10

  10/1149 […] - ETA: 0s - loss: 0.1052Epoch 19/20

   5/1149 […] - ETA: 0s - loss: 0.1313
 305/1149 [======>…] - ETA: 0s - loss: 0.1081
 770/1148 [===================>…] - ETA: 0s - loss: 0.0908
 670/1149 [================>…] - ETA: 0s - loss: 0.1062
 370/1149 [========>…] - ETA: 0s - loss: 0.1371
 840/1149 [====================>…] - ETA: 0s - loss: 1.1637
 895/1149 [=====================>…] - ETA: 0s - loss: 0.1215
 125/1149 [==>…] - ETA: 0s - loss: 0.0856
 190/1149 [===>…] - ETA: 0s - loss: 0.1319
 950/1148 [=======================>…] - ETA: 0s - loss: 0.0907
 405/1149 [========>…] - ETA: 0s - loss: 0.1136
```

```
 795/1149 [==================>…] - ETA: 0s - loss: 0.1094
 235/1149 [=====>…] - ETA: 0s - loss: 0.1217
1000/1149 [=========================>…] - ETA: 0s - loss: 0.1200
 540/1149 [=============>…] - ETA: 0s - loss: 0.1425
 950/1149 [=======================>…] - ETA: 0s - loss: 1.1606
 510/1149 [============>…] - ETA: 0s - loss: 0.1070
1130/1148 [============================>.] - ETA: 0s - loss: 0.0916
 320/1149 [=======>…] - ETA: 0s - loss: 0.1218
 915/1149 [======================>…] - ETA: 0s - loss: 0.1105
1148/1148 [==============================] - 0s 277us/step - loss: 0.0959
Epoch 9/10

  10/1148 […] - ETA: 0s - loss: 0.0884
1149/1149 [==============================] - 1s 778us/step - loss: 1.0913
Epoch 2/10

  10/1149 […] - ETA: 0s - loss: 2.1473
1085/1149 [==========================>..] - ETA: 0s - loss: 0.1231
 335/1149 [=======>…] - ETA: 0s - loss: 0.1117
 680/1149 [================>…] - ETA: 0s - loss: 0.1357
 595/1149 [==============>…] - ETA: 0s - loss: 0.1064
 460/1149 [==========>…] - ETA: 0s - loss: 0.1206
1015/1149 [=========================>…] - ETA: 0s - loss: 0.1131
 180/1148 [===>…] - ETA: 0s - loss: 0.0847
 210/1149 [====>…] - ETA: 0s - loss: 0.7655
1135/1149 [============================>.] - ETA: 0s - loss: 0.1234
 760/1149 [==================>…] - ETA: 0s - loss: 0.1346
 380/1149 [========>…] - ETA: 0s - loss: 0.1073
 635/1149 [===============>…] - ETA: 0s - loss: 0.1045
 570/1149 [=============>…] - ETA: 0s - loss: 0.1158
1149/1149 [==============================] - 1s 554us/step - loss: 0.1228

1055/1149 [========================>…] - ETA: 0s - loss: 0.1114
 290/1148 [======>…] - ETA: 0s - loss: 0.0825Epoch 14/20

   5/1149 […] - ETA: 0s - loss: 0.0189
 410/1149 [========>…] - ETA: 0s - loss: 0.7892
 930/1149 [======================>…] - ETA: 0s - loss: 0.1358
 455/1149 [==========>…] - ETA: 0s - loss: 0.1086
 725/1149 [================>…] - ETA: 0s - loss: 0.1028
 770/1149 [==================>…] - ETA: 0s - loss: 0.1294
1145/1149 [============================>.] - ETA: 0s - loss: 0.1105
 480/1148 [==========>…] - ETA: 0s - loss: 0.0855
  90/1149 [=>…] - ETA: 0s - loss: 0.1272
1149/1149 [==============================] - 1s 541us/step - loss: 0.1101
Epoch 19/20

   5/1149 […] - ETA: 0s - loss: 0.1258
```

```
 580/1149 [==============>…] – ETA: 0s – loss: 0.7731
1120/1149 [============================>.] – ETA: 0s – loss: 0.1303
 550/1149 [=============>…] – ETA: 0s – loss: 0.1125
 825/1149 [====================>…] – ETA: 0s – loss: 0.1022
 940/1149 [=======================>…] – ETA: 0s – loss: 0.1327
1149/1149 [==============================] – 0s 326us/step – loss: 0.1305
Epoch 7/10

  10/1149 […] – ETA: 0s – loss: 0.1248
 660/1148 [================>…] – ETA: 0s – loss: 0.1004
 170/1149 [===>…] – ETA: 0s – loss: 0.1093
  80/1149 [=>…] – ETA: 0s – loss: 0.0994
 760/1149 [==================>…] – ETA: 0s – loss: 0.7048
 645/1149 [===============>…] – ETA: 0s – loss: 0.1172
 915/1149 [======================>…] – ETA: 0s – loss: 0.1175
1120/1149 [============================>.] – ETA: 0s – loss: 0.1235
 210/1149 [====>…] – ETA: 0s – loss: 0.1127
 850/1148 [====================>…] – ETA: 0s – loss: 0.0946
1149/1149 [==============================] – 0s 327us/step – loss: 0.1225

 260/1149 [=====>…] – ETA: 0s – loss: 0.1084Epoch 8/10

  10/1149 […] – ETA: 0s – loss: 0.2894
 175/1149 [===>…] – ETA: 0s – loss: 0.0914
 930/1149 [======================>…] – ETA: 0s – loss: 0.6384
 735/1149 [==================>…] – ETA: 0s – loss: 0.1227
1010/1149 [=========================>…] – ETA: 0s – loss: 0.1188
 390/1149 [========>…] – ETA: 0s – loss: 0.1218
 355/1149 [========>…] – ETA: 0s – loss: 0.1120
1040/1148 [==========================>…] – ETA: 0s – loss: 0.0943
 200/1149 [====>…] – ETA: 0s – loss: 0.1145
 275/1149 [======>…] – ETA: 0s – loss: 0.1026
1148/1148 [==============================] – 0s 295us/step – loss: 0.0945
Epoch 10/10

  10/1148 […] – ETA: 0s – loss: 0.1286
1100/1149 [===========================>..] – ETA: 0s – loss: 0.1176
 825/1149 [====================>…] – ETA: 0s – loss: 0.1194
1040/1149 [==========================>…] – ETA: 0s – loss: 0.6093
 570/1149 [=============>…] – ETA: 0s – loss: 0.1161
 445/1149 [=========>…] – ETA: 0s – loss: 0.1075
 420/1149 [=========>…] – ETA: 0s – loss: 0.1231
 390/1149 [=========>…] – ETA: 0s – loss: 0.0971
1149/1149 [==============================] – 1s 564us/step – loss: 0.1219
Epoch 15/20

   5/1149 […] – ETA: 0s – loss: 0.0911
 220/1148 [====>…] – ETA: 0s – loss: 0.1095
```

```
1149/1149 [==============================] - 0s 310us/step - loss: 0.5855
Epoch 3/10

  10/1149 […] - ETA: 0s - loss: 0.2766
 925/1149 [======================>…] - ETA: 0s - loss: 0.1199
 730/1149 [==================>…] - ETA: 0s - loss: 0.1102
 540/1149 [=============>…] - ETA: 0s - loss: 0.1126
 600/1149 [==============>…] - ETA: 0s - loss: 0.1215
 485/1149 [==========>…] - ETA: 0s - loss: 0.0991
 105/1149 [=>…] - ETA: 0s - loss: 0.1082
 350/1148 [========>…] - ETA: 0s - loss: 0.0973
 230/1149 [=====>…] - ETA: 0s - loss: 0.2479
1015/1149 [========================>…] - ETA: 0s - loss: 0.1163
 940/1149 [======================>…] - ETA: 0s - loss: 0.1242
 640/1149 [===============>…] - ETA: 0s - loss: 0.1194
 740/1149 [==================>…] - ETA: 0s - loss: 0.1195
 570/1149 [=============>…] - ETA: 0s - loss: 0.1042
 195/1149 [====>…] - ETA: 0s - loss: 0.1119
 490/1148 [==========>…] - ETA: 0s - loss: 0.0938
 460/1149 [==========>…] - ETA: 0s - loss: 0.2042
1105/1149 [==========================>..] - ETA: 0s - loss: 0.1154
1149/1149 [==============================] - 0s 266us/step - loss: 0.1249
Epoch 8/10

  10/1149 […] - ETA: 0s - loss: 0.1307
 735/1149 [==================>…] - ETA: 0s - loss: 0.1220
 860/1149 [=====================>…] - ETA: 0s - loss: 0.1156
 650/1149 [===============>…] - ETA: 0s - loss: 0.1085
1149/1149 [==============================] - 1s 562us/step - loss: 0.1137
Epoch 20/20

   5/1149 […] - ETA: 0s - loss: 0.0865
 285/1149 [======>…] - ETA: 0s - loss: 0.1032
 660/1148 [===============>…] - ETA: 0s - loss: 0.0957
 650/1149 [===============>…] - ETA: 0s - loss: 0.1995
 200/1149 [====>…] - ETA: 0s - loss: 0.1046
 840/1149 [====================>…] - ETA: 0s - loss: 0.1209
1060/1149 [=========================>…] - ETA: 0s - loss: 0.1148
 725/1149 [=================>…] - ETA: 0s - loss: 0.1128
 365/1149 [========>…] - ETA: 0s - loss: 0.1063
 105/1149 [=>…] - ETA: 0s - loss: 0.1277
1149/1149 [==============================] - 0s 288us/step - loss: 0.1190
Epoch 9/10

  10/1149 […] - ETA: 0s - loss: 0.2497
 890/1148 [=====================>…] - ETA: 0s - loss: 0.0932
 820/1149 [====================>…] - ETA: 0s - loss: 0.1916
 390/1149 [========>…] - ETA: 0s - loss: 0.1263
```

```
 925/1149 [=======================>…] - ETA: 0s - loss: 0.1279
 795/1149 [==================>…] - ETA: 0s - loss: 0.1095
 440/1149 [=========>…] - ETA: 0s - loss: 0.1155
 200/1149 [====>…] - ETA: 0s - loss: 0.1084
 220/1149 [====>…] - ETA: 0s - loss: 0.0982
1090/1148 [===========================>..] - ETA: 0s - loss: 0.0934
1000/1149 [========================>…] - ETA: 0s - loss: 0.1870
1148/1148 [=============================] - 0s 285us/step - loss: 0.0928

 580/1149 [=============>…] - ETA: 0s - loss: 0.1187
1025/1149 [=========================>…] - ETA: 0s - loss: 0.1261
 885/1149 [=====================>…] - ETA: 0s - loss: 0.1071
 540/1149 [=============>…] - ETA: 0s - loss: 0.1131
 295/1149 [======>…] - ETA: 0s - loss: 0.1220
1149/1149 [=============================] - 0s 262us/step - loss: 0.1813

 420/1149 [=========>…] - ETA: 0s - loss: 0.1184Epoch 4/10

  10/1149 […] - ETA: 0s - loss: 0.1374
 780/1149 [==================>…] - ETA: 0s - loss: 0.1227
1120/1149 [============================>.] - ETA: 0s - loss: 0.1220
 985/1149 [========================>…] - ETA: 0s - loss: 0.1100
1149/1149 [=============================] - 1s 555us/step - loss: 0.1215

 660/1149 [===============>…] - ETA: 0s - loss: 0.1106Epoch 15/20

   5/1149 […] - ETA: 0s - loss: 0.0565
 395/1149 [========>…] - ETA: 0s - loss: 0.1142
 640/1149 [==============>…] - ETA: 0s - loss: 0.1060
 180/1149 [===>…] - ETA: 0s - loss: 0.1501
 970/1149 [=======================>…] - ETA: 0s - loss: 0.1195
1085/1149 [==========================>..] - ETA: 0s - loss: 0.1074
 100/1149 [=>…] - ETA: 0s - loss: 0.1650
 760/1149 [=================>…] - ETA: 0s - loss: 0.1344
 500/1149 [===========>…] - ETA: 0s - loss: 0.1204
 420/1149 [=========>…] - ETA: 0s - loss: 0.1518
 830/1149 [===================>…] - ETA: 0s - loss: 0.1102
1149/1149 [=============================] - 1s 575us/step - loss: 0.1080
Epoch 20/20

   5/1149 […] - ETA: 0s - loss: 0.0287
1149/1149 [=============================] - 0s 275us/step - loss: 0.1209
Epoch 9/10

  10/1149 […] - ETA: 0s - loss: 0.0508
 190/1149 [===>…] - ETA: 0s - loss: 0.1360
 840/1149 [====================>…] - ETA: 0s - loss: 0.1329
 595/1149 [=============>…] - ETA: 0s - loss: 0.1293
```

```
 620/1149 [===============>…] - ETA: 0s - loss: 0.1549
 990/1149 [=======================>…] - ETA: 0s - loss: 0.1165
 125/1149 [==>…] - ETA: 0s - loss: 0.1050
 200/1149 [====>…] - ETA: 0s - loss: 0.1104
 915/1149 [=====================>…] - ETA: 0s - loss: 0.1302
 285/1149 [======>…] - ETA: 0s - loss: 0.1172
 685/1149 [===============>…] - ETA: 0s - loss: 0.1220
1149/1149 [=============================] - 0s 268us/step - loss: 0.1186
Epoch 10/10

  10/1149 […] - ETA: 0s - loss: 0.0667
 790/1149 [==================>…] - ETA: 0s - loss: 0.1500
 235/1149 [=====>…] - ETA: 0s - loss: 0.0954
 390/1149 [========>…] - ETA: 0s - loss: 0.1292
 380/1149 [========>…] - ETA: 0s - loss: 0.1351
1015/1149 [========================>…] - ETA: 0s - loss: 0.1265
 780/1149 [==================>…] - ETA: 0s - loss: 0.1203
 190/1149 [===>…] - ETA: 0s - loss: 0.1124
 920/1149 [=====================>…] - ETA: 0s - loss: 0.1492
 330/1149 [=======>…] - ETA: 0s - loss: 0.0911
 560/1149 [=============>…] - ETA: 0s - loss: 0.1298
 485/1149 [==========>…] - ETA: 0s - loss: 0.1397
1115/1149 [============================>.] - ETA: 0s - loss: 0.1236
 890/1149 [=====================>…] - ETA: 0s - loss: 0.1153
 380/1149 [========>…] - ETA: 0s - loss: 0.0966
1070/1149 [=========================>…] - ETA: 0s - loss: 0.1579
1149/1149 [=============================] - 1s 555us/step - loss: 0.1215
Epoch 16/20

   5/1149 […] - ETA: 0s - loss: 0.0894
 415/1149 [=========>…] - ETA: 0s - loss: 0.0874
1149/1149 [=============================] - 0s 292us/step - loss: 0.1571
Epoch 5/10

  10/1149 […] - ETA: 0s - loss: 0.0372
 750/1149 [==================>…] - ETA: 0s - loss: 0.1231
 575/1149 [=============>…] - ETA: 0s - loss: 0.1329
 980/1149 [========================>…] - ETA: 0s - loss: 0.1165
 520/1149 [============>…] - ETA: 0s - loss: 0.1020
  95/1149 [=>…] - ETA: 0s - loss: 0.0987
 500/1149 [===========>…] - ETA: 0s - loss: 0.0979
 240/1149 [=====>…] - ETA: 0s - loss: 0.1240
 960/1149 [=======================>…] - ETA: 0s - loss: 0.1206
 680/1149 [===============>…] - ETA: 0s - loss: 0.1273
1070/1149 [=========================>…] - ETA: 0s - loss: 0.1132
 720/1149 [=================>…] - ETA: 0s - loss: 0.1159
 195/1149 [====>…] - ETA: 0s - loss: 0.0914
 570/1149 [=============>…] - ETA: 0s - loss: 0.0922
```

```
 480/1149 [===========>…] - ETA: 0s - loss: 0.1235
1149/1149 [==============================] - 0s 272us/step - loss: 0.1176
Epoch 10/10

  10/1149 [...] - ETA: 0s - loss: 0.0718
1149/1149 [==============================] - 1s 542us/step - loss: 0.1118

 760/1149 [=================>…] - ETA: 0s - loss: 0.1245
 880/1149 [=====================>…] - ETA: 0s - loss: 0.1178
 290/1149 [======>…] - ETA: 0s - loss: 0.0931
 675/1149 [===============>…] - ETA: 0s - loss: 0.1031
 610/1149 [=============>…] - ETA: 0s - loss: 0.1349
 160/1149 [===>…] - ETA: 0s - loss: 0.1673
1100/1149 [============================>..] - ETA: 0s - loss: 0.1145
 820/1149 [====================>…] - ETA: 0s - loss: 0.1222
1149/1149 [==============================] - 0s 281us/step - loss: 0.1175

 390/1149 [=========>…] - ETA: 0s - loss: 0.0930
 780/1149 [==================>…] - ETA: 0s - loss: 0.1040
 750/1149 [=================>…] - ETA: 0s - loss: 0.1402
 330/1149 [=======>…] - ETA: 0s - loss: 0.1348
 890/1149 [=====================>…] - ETA: 0s - loss: 0.1222
 485/1149 [==========>…] - ETA: 0s - loss: 0.0957
 890/1149 [=====================>…] - ETA: 0s - loss: 0.1066
 950/1149 [========================>…] - ETA: 0s - loss: 0.1478
 590/1149 [=============>…] - ETA: 0s - loss: 0.1213
1015/1149 [=========================>…] - ETA: 0s - loss: 0.1256
 595/1149 [==============>…] - ETA: 0s - loss: 0.1180
 990/1149 [=======================>…] - ETA: 0s - loss: 0.1047
1149/1149 [==============================] - 0s 261us/step - loss: 0.1492
Epoch 6/10

  10/1149 [...] - ETA: 0s - loss: 0.0553
 840/1149 [===================>…] - ETA: 0s - loss: 0.1194
1130/1149 [=============================>.] - ETA: 0s - loss: 0.1207
1149/1149 [==============================] - 1s 549us/step - loss: 0.1202
Epoch 16/20

   5/1149 [...] - ETA: 0s - loss: 0.0275
 685/1149 [===============>…] - ETA: 0s - loss: 0.1199
1085/1149 [============================>..] - ETA: 0s - loss: 0.1057
 200/1149 [====>…] - ETA: 0s - loss: 0.1418
1050/1149 [=========================>…] - ETA: 0s - loss: 0.1149
1149/1149 [==============================] - 1s 518us/step - loss: 0.1081

 110/1149 [=>…] - ETA: 0s - loss: 0.1368
 775/1149 [==================>…] - ETA: 0s - loss: 0.1213
 440/1149 [=========>…] - ETA: 0s - loss: 0.1457
```

```
1149/1149 [==============================] - 0s 257us/step - loss: 0.1151


 210/1149 [====>…] - ETA: 0s - loss: 0.1137
 870/1149 [====================>…] - ETA: 0s - loss: 0.1173
 620/1149 [==============>…] - ETA: 0s - loss: 0.1561
 305/1149 [======>…] - ETA: 0s - loss: 0.1118
 970/1149 [=======================>…] - ETA: 0s - loss: 0.1115
 850/1149 [====================>…] - ETA: 0s - loss: 0.1546
 415/1149 [========>…] - ETA: 0s - loss: 0.1133
1085/1149 [===========================>..] - ETA: 0s - loss: 0.1212
1050/1149 [==========================>…] - ETA: 0s - loss: 0.1457Epoch 1/10


  10/1149 […] - ETA: 1:04 - loss: 0.3047
1149/1149 [==============================] - 1s 519us/step - loss: 0.1209
Epoch 17/20


   5/1149 […] - ETA: 0s - loss: 0.1198
1149/1149 [==============================] - 0s 262us/step - loss: 0.1429


 490/1149 [===========>…] - ETA: 0s - loss: 0.1137Epoch 7/10


  10/1149 […] - ETA: 0s - loss: 0.0285
 120/1149 [==>…] - ETA: 5s - loss: 1.4736
  90/1149 [=>…] - ETA: 0s - loss: 0.1203
 585/1149 [=============>…] - ETA: 0s - loss: 0.1099
 170/1149 [===>…] - ETA: 0s - loss: 0.1701
 260/1149 [=====>…] - ETA: 2s - loss: 1.3627
 165/1149 [===>…] - ETA: 0s - loss: 0.1165
 340/1149 [=======>…] - ETA: 0s - loss: 0.1332
 660/1149 [===============>…] - ETA: 0s - loss: 0.1124
 390/1149 [========>…] - ETA: 1s - loss: 1.1889
 245/1149 [=====>…] - ETA: 0s - loss: 0.1192
 530/1149 [===========>…] - ETA: 0s - loss: 0.1644
 745/1149 [=================>…] - ETA: 0s - loss: 0.1134
 550/1149 [=============>…] - ETA: 0s - loss: 1.1148
 335/1149 [=======>…] - ETA: 0s - loss: 0.1070
 750/1149 [=================>…] - ETA: 0s - loss: 0.1506
 865/1149 [====================>…] - ETA: 0s - loss: 0.1123
 780/1149 [==================>…] - ETA: 0s - loss: 1.1177
 430/1149 [=========>…] - ETA: 0s - loss: 0.1108
 940/1149 [======================>…] - ETA: 0s - loss: 0.1407
 960/1149 [=======================>…] - ETA: 0s - loss: 0.1164
 980/1149 [=======================>…] - ETA: 0s - loss: 1.1199
 530/1149 [===========>…] - ETA: 0s - loss: 0.1234
1140/1149 [=============================>.] - ETA: 0s - loss: 0.1371
1149/1149 [==============================] - 0s 274us/step - loss: 0.1364


1070/1149 [==========================>…] - ETA: 0s - loss: 0.1148Epoch 8/10
```

```
  10/1149 […] - ETA: 0s - loss: 0.0857
1149/1149 [==============================] - 1s 794us/step - loss: 1.0836
Epoch 2/10

  10/1149 […] - ETA: 0s - loss: 0.2936
 625/1149 [===============>…] - ETA: 0s - loss: 0.1177Epoch 1/15

  10/1149 […] - ETA: 45s - loss: 1.3610
1149/1149 [==============================] - 1s 541us/step - loss: 0.1182
Epoch 17/20

   5/1149 […] - ETA: 0s - loss: 0.1421
 220/1149 [====>…] - ETA: 0s - loss: 0.1102
 200/1149 [====>…] - ETA: 0s - loss: 0.7399
 720/1149 [==================>…] - ETA: 0s - loss: 0.1177
 170/1149 [===>…] - ETA: 2s - loss: 1.3405
 100/1149 [=>…] - ETA: 0s - loss: 0.1056
 420/1149 [=========>…] - ETA: 0s - loss: 0.1193
 380/1149 [========>…] - ETA: 0s - loss: 0.7719
 825/1149 [====================>…] - ETA: 0s - loss: 0.1301
 300/1149 [======>…] - ETA: 1s - loss: 1.1633
 195/1149 [====>…] - ETA: 0s - loss: 0.1225
 620/1149 [===============>…] - ETA: 0s - loss: 0.1209
 590/1149 [==============>…] - ETA: 0s - loss: 0.9085Epoch 1/15

  10/1149 […] - ETA: 44s - loss: 0.9621
 915/1149 [======================>…] - ETA: 0s - loss: 0.1275
 420/1149 [=========>…] - ETA: 0s - loss: 1.1943
 305/1149 [======>…] - ETA: 0s - loss: 0.1161
 830/1149 [====================>…] - ETA: 0s - loss: 0.1203Epoch 1/15

  10/1148 […] - ETA: 44s - loss: 0.2636
 780/1149 [==================>…] - ETA: 0s - loss: 0.8692
1000/1149 [=========================>…] - ETA: 0s - loss: 0.1254
 130/1149 [==>…] - ETA: 3s - loss: 1.0442
 670/1149 [================>…] - ETA: 0s - loss: 1.1727
 390/1149 [========>…] - ETA: 0s - loss: 0.1052
1030/1149 [=========================>…] - ETA: 0s - loss: 0.1174
 160/1148 [===>…] - ETA: 2s - loss: 0.3471
 980/1149 [=======================>…] - ETA: 0s - loss: 0.8228
1149/1149 [==============================] - 0s 255us/step - loss: 0.1329
Epoch 9/10

  10/1149 […] - ETA: 0s - loss: 0.1204
1090/1149 [===========================>..] - ETA: 0s - loss: 0.1225
 880/1149 [=====================>…] - ETA: 0s - loss: 1.1345
1149/1149 [==============================] - 0s 256us/step - loss: 0.7718
```

```
 250/1149 [=====>…] - ETA: 1s - loss: 1.1163Epoch 3/10

  10/1149 […] - ETA: 0s - loss: 0.2962
 480/1149 [==========>…] - ETA: 0s - loss: 0.1054Epoch 1/15

  10/1149 […] - ETA: 51s - loss: 0.4216
1149/1149 [==============================] - 1s 571us/step - loss: 0.1213

 240/1148 [=====>…] - ETA: 1s - loss: 0.3481Epoch 18/20

   5/1149 […] - ETA: 0s - loss: 0.2032
 190/1149 [===>…] - ETA: 0s - loss: 0.1154
1030/1149 [=========================>…] - ETA: 0s - loss: 1.1839
 330/1149 [=======>…] - ETA: 1s - loss: 1.1928
 160/1149 [===>…] - ETA: 0s - loss: 0.4401
 570/1149 [=============>…] - ETA: 0s - loss: 0.1093
 140/1149 [==>…] - ETA: 3s - loss: 1.2922
 360/1148 [========>…] - ETA: 1s - loss: 0.3304
  80/1149 [=>…] - ETA: 0s - loss: 0.2961
 360/1149 [========>…] - ETA: 0s - loss: 0.1179
 440/1149 [==========>…] - ETA: 0s - loss: 1.1026
1130/1149 [============================>.] - ETA: 0s - loss: 1.1547
 680/1149 [================>…] - ETA: 0s - loss: 0.1071
 340/1149 [=======>…] - ETA: 0s - loss: 0.4008
1149/1149 [==============================] - 1s 679us/step - loss: 1.1449

 165/1149 [===>…] - ETA: 0s - loss: 0.2463Epoch 2/15

  10/1149 […] - ETA: 0s - loss: 0.1742
 290/1149 [======>…] - ETA: 1s - loss: 1.0726
 460/1148 [==========>…] - ETA: 0s - loss: 0.3379
 520/1149 [============>…] - ETA: 0s - loss: 0.1142
 785/1149 [==================>…] - ETA: 0s - loss: 0.1094
 510/1149 [============>…] - ETA: 0s - loss: 0.3463
 560/1149 [=============>…] - ETA: 0s - loss: 1.0263
 250/1149 [=====>…] - ETA: 0s - loss: 0.1994
 190/1149 [===>…] - ETA: 0s - loss: 1.1310
 610/1148 [==============>…] - ETA: 0s - loss: 0.3491
 340/1149 [=======>…] - ETA: 1s - loss: 1.1137
 730/1149 [=================>…] - ETA: 0s - loss: 0.1295
 880/1149 [====================>…] - ETA: 0s - loss: 0.1138
 690/1149 [=================>…] - ETA: 0s - loss: 0.3205
 740/1149 [=================>…] - ETA: 0s - loss: 1.0620
 340/1149 [=======>…] - ETA: 0s - loss: 0.1719
 380/1149 [========>…] - ETA: 0s - loss: 0.9688
 760/1148 [==================>…] - ETA: 0s - loss: 0.3356
 400/1149 [========>…] - ETA: 1s - loss: 1.1501
```

```
 910/1149 [=====================>…] - ETA: 0s - loss: 0.1247
 965/1149 [========================>…] - ETA: 0s - loss: 0.1173
 840/1149 [===================>…] - ETA: 0s - loss: 0.3060
 910/1149 [=====================>…] - ETA: 0s - loss: 1.0941
 435/1149 [=========>…] - ETA: 0s - loss: 0.1590
 580/1149 [=============>…] - ETA: 0s - loss: 0.8804
 540/1149 [============>…] - ETA: 0s - loss: 1.1496
 880/1148 [====================>…] - ETA: 0s - loss: 0.3367
1090/1149 [==========================>..] - ETA: 0s - loss: 0.1310
1080/1149 [==========================>..] - ETA: 0s - loss: 0.1192
1149/1149 [==============================] - 0s 283us/step - loss: 0.1302


1040/1149 [==========================>…] - ETA: 0s - loss: 0.2934Epoch 10/10


  10/1149 […] - ETA: 0s - loss: 0.1217
1030/1149 [=========================>…] - ETA: 0s - loss: 1.1407
 525/1149 [===========>…] - ETA: 0s - loss: 0.1484
 720/1149 [================>…] - ETA: 0s - loss: 0.7885
 750/1149 [=================>…] - ETA: 0s - loss: 1.1604
 970/1148 [=======================>…] - ETA: 0s - loss: 0.3315
1149/1149 [==============================] - 1s 521us/step - loss: 0.1178
Epoch 18/20


   5/1149 […] - ETA: 0s - loss: 0.0930
1149/1149 [==============================] - 0s 300us/step - loss: 0.2846
Epoch 4/10


  10/1149 […] - ETA: 0s - loss: 0.1721
1149/1149 [==============================] - 1s 750us/step - loss: 1.1616
Epoch 2/15


  10/1149 […] - ETA: 0s - loss: 0.5173
 190/1149 [===>…] - ETA: 0s - loss: 0.1144
 610/1149 [=============>…] - ETA: 0s - loss: 0.1415
 900/1149 [=====================>…] - ETA: 0s - loss: 0.7218
 920/1149 [=====================>…] - ETA: 0s - loss: 1.1517
1040/1148 [=========================>…] - ETA: 0s - loss: 0.3261
 110/1149 [=>…] - ETA: 0s - loss: 0.1667
 190/1149 [===>…] - ETA: 0s - loss: 0.1711
 140/1149 [==>…] - ETA: 0s - loss: 1.0197
 370/1149 [=======>…] - ETA: 0s - loss: 0.1157
1148/1148 [==============================] - 1s 792us/step - loss: 0.3200


 690/1149 [=================>…] - ETA: 0s - loss: 0.1363Epoch 2/15


  10/1148 […] - ETA: 0s - loss: 0.1754
1040/1149 [=========================>…] - ETA: 0s - loss: 0.6690
1060/1149 [=========================>…] - ETA: 0s - loss: 1.1288
```

```
 200/1149 [====>…] - ETA: 0s - loss: 0.1420
 390/1149 [=========>…] - ETA: 0s - loss: 0.1792
 320/1149 [=======>…] - ETA: 0s - loss: 1.0912
 570/1149 [=============>…] - ETA: 0s - loss: 0.1514
1149/1149 [==============================] - 1s 789us/step - loss: 1.1220


1149/1149 [==============================] - 0s 309us/step - loss: 0.6346
Epoch 2/15

  10/1149 […] - ETA: 0s - loss: 1.4924Epoch 3/15


  10/1149 […] - ETA: 0s - loss: 0.8057
 790/1149 [====================>…] - ETA: 0s - loss: 0.1352
 170/1148 [===>…] - ETA: 0s - loss: 0.1978
 285/1149 [======>…] - ETA: 0s - loss: 0.1291
 590/1149 [=============>…] - ETA: 0s - loss: 0.1770
 480/1149 [==========>…] - ETA: 0s - loss: 1.0714
 800/1149 [====================>…] - ETA: 0s - loss: 0.1359
 160/1149 [===>…] - ETA: 0s - loss: 0.9370
 160/1149 [===>…] - ETA: 0s - loss: 0.3562
 890/1149 [=====================>…] - ETA: 0s - loss: 0.1292
 350/1148 [========>…] - ETA: 0s - loss: 0.2159
 365/1149 [========>…] - ETA: 0s - loss: 0.1248
 740/1149 [=================>…] - ETA: 0s - loss: 0.1695
 640/1149 [==============>…] - ETA: 0s - loss: 1.0725
 970/1149 [=======================>…] - ETA: 0s - loss: 0.1264
 320/1149 [=======>…] - ETA: 0s - loss: 1.0213
 330/1149 [=======>…] - ETA: 0s - loss: 0.2673
 980/1149 [=======================>…] - ETA: 0s - loss: 0.1253
 570/1148 [=============>…] - ETA: 0s - loss: 0.2043
 920/1149 [======================>…] - ETA: 0s - loss: 0.1828
 460/1149 [===========>…] - ETA: 0s - loss: 0.1278
1149/1149 [==============================] - 0s 264us/step - loss: 0.1288


 810/1149 [====================>…] - ETA: 0s - loss: 1.0531
 520/1149 [============>…] - ETA: 0s - loss: 0.2432
 470/1149 [==========>…] - ETA: 0s - loss: 1.0601
1070/1149 [===========================>…] - ETA: 0s - loss: 0.1227
 800/1148 [===================>…] - ETA: 0s - loss: 0.1882
1090/1149 [===========================>..] - ETA: 0s - loss: 0.1730
 560/1149 [============>…] - ETA: 0s - loss: 0.1330
 970/1149 [=======================>…] - ETA: 0s - loss: 1.0020
1149/1149 [==============================] - 0s 286us/step - loss: 0.1723
Epoch 5/10

  10/1149 […] - ETA: 0s - loss: 0.0846
1149/1149 [==============================] - 1s 575us/step - loss: 0.1191
```

```
 660/1149 [================>…] – ETA: 0s – loss: 1.0562
 720/1149 [=================>…] – ETA: 0s – loss: 0.2295Epoch 19/20

   5/1149 […] – ETA: 0s – loss: 0.0886
 930/1148 [======================>…] – ETA: 0s – loss: 0.1817
1149/1149 [==============================] – 0s 303us/step – loss: 0.9540
Epoch 3/15

  10/1149 […] – ETA: 0s – loss: 0.8681
 660/1149 [===============>…] – ETA: 0s – loss: 0.1271
 200/1149 [====>…] – ETA: 0s – loss: 0.1404
 870/1149 [====================>…] – ETA: 0s – loss: 0.9536
 900/1149 [======================>…] – ETA: 0s – loss: 0.2194
 105/1149 [=>…] – ETA: 0s – loss: 0.0961
1090/1148 [==========================>..] – ETA: 0s – loss: 0.1784
 240/1149 [=====>…] – ETA: 0s – loss: 0.7034
 755/1149 [=================>…] – ETA: 0s – loss: 0.1261
1148/1148 [==============================] – 0s 292us/step – loss: 0.1761
Epoch 3/15

  10/1148 […] – ETA: 0s – loss: 0.1271
 380/1149 [========>…] – ETA: 0s – loss: 0.1377
1080/1149 [===========================>..] – ETA: 0s – loss: 0.9089
1060/1149 [==========================>…] – ETA: 0s – loss: 0.2130
 190/1149 [===>…] – ETA: 0s – loss: 0.1089
1149/1149 [==============================] – 0s 283us/step – loss: 0.8915
Epoch 3/15

  10/1149 […] – ETA: 0s – loss: 0.7153
 440/1149 [=========>…] – ETA: 0s – loss: 0.7442
 840/1149 [====================>…] – ETA: 0s – loss: 0.1218
 220/1148 [====>…] – ETA: 0s – loss: 0.1442
1149/1149 [==============================] – 0s 306us/step – loss: 0.2174
Epoch 4/15

  10/1149 […] – ETA: 0s – loss: 0.2760
 550/1149 [============>…] – ETA: 0s – loss: 0.1428
 285/1149 [======>…] – ETA: 0s – loss: 0.1010
 240/1149 [=====>…] – ETA: 0s – loss: 0.5431
 660/1149 [===============>…] – ETA: 0s – loss: 0.6968
 930/1149 [======================>…] – ETA: 0s – loss: 0.1186
 420/1148 [=========>…] – ETA: 0s – loss: 0.1436
 110/1149 [=>…] – ETA: 0s – loss: 0.1842
 740/1149 [=================>…] – ETA: 0s – loss: 0.1613
 365/1149 [=======>…] – ETA: 0s – loss: 0.1036
 440/1149 [=========>…] – ETA: 0s – loss: 0.5470
 850/1149 [====================>…] – ETA: 0s – loss: 0.6971
1030/1149 [========================>…] – ETA: 0s – loss: 0.1157
```

```
 640/1148 [===============>…] - ETA: 0s - loss: 0.1379
 310/1149 [=======>…] - ETA: 0s - loss: 0.1792
 910/1149 [=====================>…] - ETA: 0s - loss: 0.1660
 455/1149 [==========>…] - ETA: 0s - loss: 0.0985
 630/1149 [==============>…] - ETA: 0s - loss: 0.5394
1030/1149 [=========================>…] - ETA: 0s - loss: 0.6455
1130/1149 [============================>.] - ETA: 0s - loss: 0.1178
 850/1148 [====================>…] - ETA: 0s - loss: 0.1319
1149/1149 [=============================] - 1s 552us/step - loss: 0.1172
Epoch 19/20

   5/1149 […] - ETA: 0s - loss: 0.0411
 480/1149 [==========>…] - ETA: 0s - loss: 0.1894
1090/1149 [===========================>..] - ETA: 0s - loss: 0.1594
 555/1149 [=============>…] - ETA: 0s - loss: 0.0962
1149/1149 [=============================] - 0s 254us/step - loss: 0.6765
Epoch 4/15

  10/1149 […] - ETA: 0s - loss: 0.8167
 800/1149 [==================>…] - ETA: 0s - loss: 0.5293
1149/1149 [=============================] - 0s 289us/step - loss: 0.1589
Epoch 6/10

  10/1149 […] - ETA: 0s - loss: 0.2730
1030/1148 [=========================>…] - ETA: 0s - loss: 0.1319
 100/1149 [=>…] - ETA: 0s - loss: 0.1122
 680/1149 [================>…] - ETA: 0s - loss: 0.1823
 635/1149 [===============>…] - ETA: 0s - loss: 0.0987
 200/1149 [====>…] - ETA: 0s - loss: 0.4569
 980/1149 [========================>…] - ETA: 0s - loss: 0.4935
 200/1149 [====>…] - ETA: 0s - loss: 0.1835
1148/1148 [=============================] - 0s 258us/step - loss: 0.1335
Epoch 4/15

  10/1148 […] - ETA: 0s - loss: 0.0587
 195/1149 [====>…] - ETA: 0s - loss: 0.1046
 890/1149 [=====================>…] - ETA: 0s - loss: 0.1715
 730/1149 [==================>…] - ETA: 0s - loss: 0.0994
 390/1149 [=========>…] - ETA: 0s - loss: 0.4915
1149/1149 [=============================] - 0s 269us/step - loss: 0.4747

 400/1149 [=========>…] - ETA: 0s - loss: 0.2021Epoch 4/15

  10/1149 […] - ETA: 0s - loss: 0.0800
 190/1148 [===>…] - ETA: 0s - loss: 0.1571
 305/1149 [======>…] - ETA: 0s - loss: 0.0968
1100/1149 [===========================>..] - ETA: 0s - loss: 0.1762
 830/1149 [===================>…] - ETA: 0s - loss: 0.1034
```

```
1149/1149 [==============================] - 0s 290us/step - loss: 0.1728
Epoch 5/15

  10/1149 […] - ETA: 0s - loss: 0.1646
 590/1149 [=============>…] - ETA: 0s - loss: 0.4376
 610/1149 [=============>…] - ETA: 0s - loss: 0.1761
 200/1149 [====>…] - ETA: 0s - loss: 0.2277
 360/1148 [========>…] - ETA: 0s - loss: 0.1470
 395/1149 [========>…] - ETA: 0s - loss: 0.1070
 915/1149 [=====================>…] - ETA: 0s - loss: 0.1110
 790/1149 [==================>…] - ETA: 0s - loss: 0.4257
 210/1149 [====>…] - ETA: 0s - loss: 0.1234
 780/1149 [==================>…] - ETA: 0s - loss: 0.1624
 550/1148 [============>…] - ETA: 0s - loss: 0.1300
 400/1149 [=========>…] - ETA: 0s - loss: 0.2546
 485/1149 [==========>…] - ETA: 0s - loss: 0.1170
1005/1149 [========================>…] - ETA: 0s - loss: 0.1090
 380/1149 [========>…] - ETA: 0s - loss: 0.1760
 950/1149 [======================>…] - ETA: 0s - loss: 0.4065
 920/1149 [======================>…] - ETA: 0s - loss: 0.1582
 700/1148 [================>…] - ETA: 0s - loss: 0.1238
 560/1149 [============>…] - ETA: 0s - loss: 0.2667
 555/1149 [============>…] - ETA: 0s - loss: 0.1106
1080/1149 [===========================>..] - ETA: 0s - loss: 0.1099
 540/1149 [============>…] - ETA: 0s - loss: 0.1722
1140/1149 [============================>.] - ETA: 0s - loss: 0.3972
1149/1149 [==============================] - 0s 275us/step - loss: 0.3948
Epoch 5/15

  10/1149 […] - ETA: 0s - loss: 0.2098
 880/1148 [====================>…] - ETA: 0s - loss: 0.1198
1100/1149 [===========================>..] - ETA: 0s - loss: 0.1541
 760/1149 [==================>…] - ETA: 0s - loss: 0.2548
1149/1149 [==============================] - 0s 283us/step - loss: 0.1532
Epoch 7/10

  10/1149 […] - ETA: 0s - loss: 0.0579
1149/1149 [==============================] - 1s 575us/step - loss: 0.1191


 660/1149 [===============>…] - ETA: 0s - loss: 0.1096Epoch 20/20

   5/1149 […] - ETA: 0s - loss: 0.1216
 710/1149 [================>…] - ETA: 0s - loss: 0.1820
 190/1149 [===>…] - ETA: 0s - loss: 0.1937
1070/1148 [=========================>…] - ETA: 0s - loss: 0.1155
 950/1149 [======================>…] - ETA: 0s - loss: 0.2327
 220/1149 [====>…] - ETA: 0s - loss: 0.1243
 750/1149 [==================>…] - ETA: 0s - loss: 0.1075
```

```
1148/1148 [==============================] - 0s 291us/step - loss: 0.1166
Epoch 5/15

  10/1148 […] - ETA: 0s - loss: 0.0977
 100/1149 [=>…] - ETA: 0s - loss: 0.1183
 900/1149 [=====================>…] - ETA: 0s - loss: 0.1717
 380/1149 [========>…] - ETA: 0s - loss: 0.1973
1130/1149 [============================>.] - ETA: 0s - loss: 0.2271
1149/1149 [==============================] - 0s 280us/step - loss: 0.2248
Epoch 5/15

  10/1149 […] - ETA: 0s - loss: 0.3189
 410/1149 [=========>…] - ETA: 0s - loss: 0.1335
 840/1149 [===================>…] - ETA: 0s - loss: 0.1133
 190/1149 [===>…] - ETA: 0s - loss: 0.1161
 190/1148 [===>…] - ETA: 0s - loss: 0.0911
 540/1149 [=============>…] - ETA: 0s - loss: 0.2000
1080/1149 [==========================>..] - ETA: 0s - loss: 0.1661
 190/1149 [===>…] - ETA: 0s - loss: 0.1831
 580/1149 [==============>…] - ETA: 0s - loss: 0.1287
1149/1149 [==============================] - 0s 292us/step - loss: 0.1624
Epoch 6/15

  10/1149 […] - ETA: 0s - loss: 0.1018
 920/1149 [=====================>…] - ETA: 0s - loss: 0.1133
 290/1149 [======>…] - ETA: 0s - loss: 0.1118
 370/1148 [========>…] - ETA: 0s - loss: 0.0986
 750/1149 [==================>…] - ETA: 0s - loss: 0.2125
 390/1149 [=========>…] - ETA: 0s - loss: 0.1664
 750/1149 [==================>…] - ETA: 0s - loss: 0.1324
1010/1149 [========================>…] - ETA: 0s - loss: 0.1172
 190/1149 [===>…] - ETA: 0s - loss: 0.1303
 380/1149 [========>…] - ETA: 0s - loss: 0.1139
 550/1148 [=============>…] - ETA: 0s - loss: 0.0961
 920/1149 [=====================>…] - ETA: 0s - loss: 0.2264Epoch 1/15

  10/1149 […] - ETA: 1:02 - loss: 0.7383
 570/1149 [=============>…] - ETA: 0s - loss: 0.1564
 940/1149 [=====================>…] - ETA: 0s - loss: 0.1358
1105/1149 [==========================>..] - ETA: 0s - loss: 0.1183
 390/1149 [=========>…] - ETA: 0s - loss: 0.1520
 480/1149 [==========>…] - ETA: 0s - loss: 0.1231
 750/1148 [==================>…] - ETA: 0s - loss: 0.1079
1149/1149 [==============================] - 1s 561us/step - loss: 0.1170


1100/1149 [==========================>..] - ETA: 0s - loss: 0.2180Epoch 20/20

   5/1149 […] - ETA: 0s - loss: 0.0932
```

```
 110/1149 [=>…] - ETA: 5s - loss: 0.9687
 750/1149 [=================>…] - ETA: 0s - loss: 0.1592
1149/1149 [==============================] - 0s 281us/step - loss: 0.2206
Epoch 6/15

  10/1149 […] - ETA: 0s - loss: 0.2077
1130/1149 [============================>.] - ETA: 0s - loss: 0.1501
 620/1149 [==============>…] - ETA: 0s - loss: 0.1805
1149/1149 [==============================] - 0s 276us/step - loss: 0.1501

 580/1149 [==============>…] - ETA: 0s - loss: 0.1179Epoch 8/10

  10/1149 […] - ETA: 0s - loss: 0.1727
 960/1148 [========================>…] - ETA: 0s - loss: 0.1069
 115/1149 [==>…] - ETA: 0s - loss: 0.1597
 170/1149 [===>…] - ETA: 3s - loss: 1.0632
 890/1149 [======================>…] - ETA: 0s - loss: 0.1648
 220/1149 [====>…] - ETA: 0s - loss: 0.1664
 820/1149 [====================>…] - ETA: 0s - loss: 0.1740
1140/1148 [============================>.] - ETA: 0s - loss: 0.1076
 180/1149 [===>…] - ETA: 0s - loss: 0.1964
 685/1149 [================>…] - ETA: 0s - loss: 0.1190
1148/1148 [==============================] - 0s 274us/step - loss: 0.1072
Epoch 6/15

  10/1148 […] - ETA: 0s - loss: 0.0677
 200/1149 [====>…] - ETA: 0s - loss: 0.1452
 290/1149 [======>…] - ETA: 2s - loss: 1.0434
1030/1149 [==========================>…] - ETA: 0s - loss: 0.1606
 420/1149 [=========>…] - ETA: 0s - loss: 0.1587
1020/1149 [=========================>…] - ETA: 0s - loss: 0.1662
 330/1149 [=======>…] - ETA: 0s - loss: 0.1605
 780/1149 [===================>…] - ETA: 0s - loss: 0.1303
 210/1148 [====>…] - ETA: 0s - loss: 0.1107
 310/1149 [=======>…] - ETA: 0s - loss: 0.1210
1149/1149 [==============================] - 0s 301us/step - loss: 0.1573
Epoch 6/15

  10/1149 […] - ETA: 0s - loss: 0.1682
1149/1149 [==============================] - 0s 256us/step - loss: 0.1566
Epoch 7/15

  10/1149 […] - ETA: 0s - loss: 0.2257
 390/1149 [=========>…] - ETA: 1s - loss: 1.1793
 640/1149 [===============>…] - ETA: 0s - loss: 0.1727
 540/1149 [=============>…] - ETA: 0s - loss: 0.1652
 875/1149 [=====================>…] - ETA: 0s - loss: 0.1272
 390/1148 [=========>…] - ETA: 0s - loss: 0.1246
```

```
 395/1149 [=========>…] – ETA: 0s – loss: 0.1114
 210/1149 [====>…] – ETA: 0s – loss: 0.1754
 210/1149 [====>…] – ETA: 0s – loss: 0.1386
 500/1149 [============>…] – ETA: 1s – loss: 1.0958
 850/1149 [====================>…] – ETA: 0s – loss: 0.1567
 970/1149 [=========================>…] – ETA: 0s – loss: 0.1260
 750/1149 [=================>…] – ETA: 0s – loss: 0.1543
 580/1148 [=============>…] – ETA: 0s – loss: 0.1131
 480/1149 [==========>…] – ETA: 0s – loss: 0.1095
 410/1149 [========>…] – ETA: 0s – loss: 0.1546
 410/1149 [========>…] – ETA: 0s – loss: 0.1446
1040/1149 [=========================>…] – ETA: 0s – loss: 0.1529
 560/1149 [=============>…] – ETA: 0s – loss: 1.0666
1080/1149 [============================>..] – ETA: 0s – loss: 0.1214
 950/1149 [========================>…] – ETA: 0s – loss: 0.1482
 750/1148 [=================>…] – ETA: 0s – loss: 0.1081
 570/1149 [=============>…] – ETA: 0s – loss: 0.1084
1149/1149 [=============================] – 0s 256us/step – loss: 0.1526


 610/1149 [=============>…] – ETA: 0s – loss: 0.1542Epoch 7/15


  10/1149 […] – ETA: 0s – loss: 0.0463
 580/1149 [=============>…] – ETA: 0s – loss: 0.1425
1149/1149 [=============================] – 1s 530us/step – loss: 0.1195


 680/1149 [================>…] – ETA: 0s – loss: 1.0266
1149/1149 [=============================] – 0s 272us/step – loss: 0.1468
Epoch 9/10


  10/1149 […] – ETA: 0s – loss: 0.1811
 940/1148 [======================>…] – ETA: 0s – loss: 0.1042
 670/1149 [===============>…] – ETA: 0s – loss: 0.1054
 810/1149 [===================>…] – ETA: 0s – loss: 0.1426
 200/1149 [====>…] – ETA: 0s – loss: 0.1369
 760/1149 [=================>…] – ETA: 0s – loss: 0.1487
 790/1149 [==================>…] – ETA: 0s – loss: 1.0253
 210/1149 [====>…] – ETA: 0s – loss: 0.1788
1148/1148 [=============================] – 0s 272us/step – loss: 0.1024
Epoch 7/15


  10/1148 […] – ETA: 0s – loss: 0.0621
 770/1149 [==================>…] – ETA: 0s – loss: 0.1118
1030/1149 [========================>…] – ETA: 0s – loss: 0.1416
 380/1149 [=======>…] – ETA: 0s – loss: 0.1420
 950/1149 [=======================>…] – ETA: 0s – loss: 0.1441
 930/1149 [=======================>…] – ETA: 0s – loss: 1.0309
1149/1149 [=============================] – 0s 253us/step – loss: 0.1379
```

```
 410/1149 [=========>…] - ETA: 0s - loss: 0.1379Epoch 7/15

  10/1149 [...] - ETA: 0s - loss: 0.1864
 240/1148 [=====>…] - ETA: 0s - loss: 0.1227
 875/1149 [====================>…] - ETA: 0s - loss: 0.1116
 570/1149 [=============>…] - ETA: 0s - loss: 0.1471
1130/1149 [============================>.] - ETA: 0s - loss: 0.1491
1149/1149 [=============================] - 0s 276us/step - loss: 0.1502
Epoch 8/15

  10/1149 [...] - ETA: 0s - loss: 0.0657
1040/1149 [==========================>…] - ETA: 0s - loss: 1.0491
 610/1149 [=============>…] - ETA: 0s - loss: 0.1348
 210/1149 [====>…] - ETA: 0s - loss: 0.1292
 450/1148 [=========>…] - ETA: 0s - loss: 0.1038
 975/1149 [========================>…] - ETA: 0s - loss: 0.1127
1149/1149 [=============================] - 1s 967us/step - loss: 1.0561

 760/1149 [=================>…] - ETA: 0s - loss: 0.1374Epoch 2/15

  10/1149 [...] - ETA: 0s - loss: 0.5701
 220/1149 [====>…] - ETA: 0s - loss: 0.1386
 810/1149 [===================>…] - ETA: 0s - loss: 0.1286
 370/1149 [========>…] - ETA: 0s - loss: 0.1480
 610/1148 [=============>…] - ETA: 0s - loss: 0.1051
1075/1149 [===========================>..] - ETA: 0s - loss: 0.1126
 270/1149 [======>…] - ETA: 0s - loss: 0.9088
 950/1149 [======================>…] - ETA: 0s - loss: 0.1376
 410/1149 [=========>…] - ETA: 0s - loss: 0.1727
1000/1149 [=========================>…] - ETA: 0s - loss: 0.1299
 580/1149 [=============>…] - ETA: 0s - loss: 0.1480
1149/1149 [=============================] - 1s 528us/step - loss: 0.1155

 700/1148 [=================>…] - ETA: 0s - loss: 0.1000
 490/1149 [==========>…] - ETA: 0s - loss: 0.9065
1149/1149 [=============================] - 0s 269us/step - loss: 0.1317
Epoch 8/15

  10/1149 [...] - ETA: 0s - loss: 0.1355
 610/1149 [=============>…] - ETA: 0s - loss: 0.1585
1149/1149 [=============================] - 0s 258us/step - loss: 0.1439
Epoch 10/10

  10/1149 [...] - ETA: 0s - loss: 0.0884
 710/1149 [=================>…] - ETA: 0s - loss: 0.1444
 850/1148 [====================>…] - ETA: 0s - loss: 0.0971
 740/1149 [=================>…] - ETA: 0s - loss: 0.8255
 220/1149 [====>…] - ETA: 0s - loss: 0.1282
```

```
 820/1149 [====================>…] – ETA: 0s – loss: 0.1471
 210/1149 [====>…] – ETA: 0s – loss: 0.1173
 900/1149 [=====================>…] – ETA: 0s – loss: 0.1339
1020/1148 [=========================>…] – ETA: 0s – loss: 0.0980
 960/1149 [======================>…] – ETA: 0s – loss: 0.7561
 440/1149 [=========>…] – ETA: 0s – loss: 0.1553
1148/1148 [==============================] – 0s 293us/step – loss: 0.0987
Epoch 8/15

  10/1148 […] – ETA: 0s – loss: 0.0365
1010/1149 [========================>…] – ETA: 0s – loss: 0.1453
 410/1149 [=========>…] – ETA: 0s – loss: 0.1536
1080/1149 [===========================>..] – ETA: 0s – loss: 0.1308
1149/1149 [==============================] – 0s 220us/step – loss: 0.7231
Epoch 3/15

  10/1149 […] – ETA: 0s – loss: 0.1684
1149/1149 [==============================] – 0s 256us/step – loss: 0.1465
Epoch 9/15

  10/1149 […] – ETA: 0s – loss: 0.0606
1149/1149 [==============================] – 0s 290us/step – loss: 0.1315
Epoch 8/15

  10/1149 […] – ETA: 0s – loss: 0.0568
 650/1149 [===============>…] – ETA: 0s – loss: 0.1443
 230/1148 [=====>…] – ETA: 0s – loss: 0.1083
 640/1149 [===============>…] – ETA: 0s – loss: 0.1453
 100/1149 [=>…] – ETA: 0s – loss: 0.4298
 200/1149 [====>…] – ETA: 0s – loss: 0.1572
 200/1149 [====>…] – ETA: 0s – loss: 0.1024
 790/1149 [===================>…] – ETA: 0s – loss: 0.1305
 460/1148 [==========>…] – ETA: 0s – loss: 0.0980
 830/1149 [===================>…] – ETA: 0s – loss: 0.1421
 240/1149 [=====>…] – ETA: 0s – loss: 0.5010
 370/1149 [========>…] – ETA: 0s – loss: 0.1509
 410/1149 [========>…] – ETA: 0s – loss: 0.1424
 900/1149 [=====================>…] – ETA: 0s – loss: 0.1311
 660/1148 [================>…] – ETA: 0s – loss: 0.0968
1040/1149 [========================>…] – ETA: 0s – loss: 0.1412
 380/1149 [=======>…] – ETA: 0s – loss: 0.4421
 560/1149 [=============>…] – ETA: 0s – loss: 0.1426
 580/1149 [=============>…] – ETA: 0s – loss: 0.1366
1050/1149 [=========================>…] – ETA: 0s – loss: 0.1283
 830/1148 [===================>…] – ETA: 0s – loss: 0.0967
1149/1149 [==============================] – 0s 265us/step – loss: 0.1411

1149/1149 [==============================] – 0s 299us/step – loss: 0.1267
```

```
Epoch 9/15

  10/1149 […] - ETA: 0s - loss: 0.0821
 590/1149 [==============>…] - ETA: 0s - loss: 0.3982
 730/1149 [==================>…] - ETA: 0s - loss: 0.1456
 770/1149 [==================>…] - ETA: 0s - loss: 0.1308
1000/1148 [=========================>…] - ETA: 0s - loss: 0.0961
 220/1149 [====>…] - ETA: 0s - loss: 0.1189
 830/1149 [====================>…] - ETA: 0s - loss: 0.3512
 960/1149 [========================>…] - ETA: 0s - loss: 0.1432
1148/1148 [=============================] - 0s 262us/step - loss: 0.0958


1010/1149 [========================>…] - ETA: 0s - loss: 0.1305Epoch 9/15

  10/1148 […] - ETA: 0s - loss: 0.1917
 440/1149 [=========>…] - ETA: 0s - loss: 0.1059
1149/1149 [=============================] - 0s 256us/step - loss: 0.1286


1050/1149 [=========================>…] - ETA: 0s - loss: 0.3244Epoch 9/15

  10/1149 […] - ETA: 0s - loss: 0.1182
1110/1149 [===========================>..] - ETA: 0s - loss: 0.1451
 200/1148 [====>…] - ETA: 0s - loss: 0.0974
1149/1149 [=============================] - 0s 283us/step - loss: 0.1419


1149/1149 [=============================] - 0s 290us/step - loss: 0.3177
Epoch 4/15

  10/1149 […] - ETA: 0s - loss: 0.2267Epoch 10/15

  10/1149 […] - ETA: 0s - loss: 0.0651
 630/1149 [==============>…] - ETA: 0s - loss: 0.1045
 200/1149 [====>…] - ETA: 0s - loss: 0.1170
 400/1148 [========>…] - ETA: 0s - loss: 0.0922
 190/1149 [===>…] - ETA: 0s - loss: 0.1657
 220/1149 [====>…] - ETA: 0s - loss: 0.2217
 790/1149 [==================>…] - ETA: 0s - loss: 0.1163
 370/1149 [========>…] - ETA: 0s - loss: 0.1516
 570/1148 [============>…] - ETA: 0s - loss: 0.0871
 360/1149 [=======>…] - ETA: 0s - loss: 0.1760
 350/1149 [========>…] - ETA: 0s - loss: 0.2061
 990/1149 [======================>…] - ETA: 0s - loss: 0.1239
 530/1149 [===========>…] - ETA: 0s - loss: 0.1347
 750/1148 [=================>…] - ETA: 0s - loss: 0.0890
 600/1149 [=============>…] - ETA: 0s - loss: 0.1569
 450/1149 [=========>…] - ETA: 0s - loss: 0.2247
1149/1149 [=============================] - 0s 274us/step - loss: 0.1235
```

```
730/1149 [==================>…] - ETA: 0s - loss: 0.1333Epoch 10/15

  10/1149 […] - ETA: 0s - loss: 0.2260
 930/1148 [======================>…] - ETA: 0s - loss: 0.0900
 810/1149 [====================>…] - ETA: 0s - loss: 0.1418
 660/1149 [===============>…] - ETA: 0s - loss: 0.2097
 960/1149 [=======================>…] - ETA: 0s - loss: 0.1291
 200/1149 [====>…] - ETA: 0s - loss: 0.1234
1148/1148 [==============================] - 0s 270us/step - loss: 0.0934
Epoch 10/15

  10/1148 […] - ETA: 0s - loss: 0.0660
1000/1149 [=========================>…] - ETA: 0s - loss: 0.1379
 890/1149 [======================>…] - ETA: 0s - loss: 0.2084
1149/1149 [==============================] - 0s 265us/step - loss: 0.1268
Epoch 10/15

  10/1149 […] - ETA: 0s - loss: 0.1099
 380/1149 [========>…] - ETA: 0s - loss: 0.1198
 210/1148 [====>…] - ETA: 0s - loss: 0.0727
1149/1149 [==============================] - 0s 261us/step - loss: 0.1397
Epoch 11/15

  10/1149 […] - ETA: 0s - loss: 0.0893
1120/1149 [===========================>.] - ETA: 0s - loss: 0.1924
1149/1149 [==============================] - 0s 280us/step - loss: 0.1911
Epoch 5/15

  10/1149 […] - ETA: 0s - loss: 0.1363
 190/1149 [===>…] - ETA: 0s - loss: 0.1493
 530/1149 [===========>…] - ETA: 0s - loss: 0.1218
 410/1148 [=========>…] - ETA: 0s - loss: 0.0890
 200/1149 [====>…] - ETA: 0s - loss: 0.1556
 190/1149 [===>…] - ETA: 0s - loss: 0.1796
 340/1149 [=======>…] - ETA: 0s - loss: 0.1357
 730/1149 [==================>…] - ETA: 0s - loss: 0.1211
 580/1148 [==============>…] - ETA: 0s - loss: 0.0937
 390/1149 [========>…] - ETA: 0s - loss: 0.1678
 390/1149 [=========>…] - ETA: 0s - loss: 0.2032Epoch 1/20

  10/1148 […] - ETA: 58s - loss: 0.3573
 510/1149 [===========>…] - ETA: 0s - loss: 0.1210
 930/1149 [======================>…] - ETA: 0s - loss: 0.1207
 770/1148 [==================>…] - ETA: 0s - loss: 0.0888
 600/1149 [==============>…] - ETA: 0s - loss: 0.1519
 590/1149 [==============>…] - ETA: 0s - loss: 0.1998
 100/1148 [=>…] - ETA: 5s - loss: 0.3950
 690/1149 [================>…] - ETA: 0s - loss: 0.1240
```

```
1140/1149 [============================>.] - ETA: 0s - loss: 0.1224
1149/1149 [=============================] - 0s 276us/step - loss: 0.1219
Epoch 11/15

  10/1149 […] - ETA: 0s - loss: 0.0430
 940/1148 [======================>…] - ETA: 0s - loss: 0.0902
 770/1149 [==================>…] - ETA: 0s - loss: 0.1498
 790/1149 [==================>…] - ETA: 0s - loss: 0.1831
 890/1149 [====================>…] - ETA: 0s - loss: 0.1234
 240/1148 [=====>…] - ETA: 2s - loss: 0.3775
 170/1149 [===>…] - ETA: 0s - loss: 0.1122
1140/1148 [===========================>.] - ETA: 0s - loss: 0.0917
1148/1148 [=============================] - 0s 271us/step - loss: 0.0915
Epoch 11/15

  10/1148 […] - ETA: 0s - loss: 0.0751
 940/1149 [======================>…] - ETA: 0s - loss: 0.1421
1020/1149 [========================>…] - ETA: 0s - loss: 0.1737
1070/1149 [==========================>…] - ETA: 0s - loss: 0.1281
 350/1148 [=======>…] - ETA: 1s - loss: 0.3647
 340/1149 [=======>…] - ETA: 0s - loss: 0.1102
1149/1149 [=============================] - 0s 290us/step - loss: 0.1255


1149/1149 [=============================] - 0s 272us/step - loss: 0.1367


 200/1148 [====>…] - ETA: 0s - loss: 0.0769Epoch 11/15


  10/1149 […] - ETA: 0s - loss: 0.1389
1149/1149 [=============================] - 0s 254us/step - loss: 0.1666
Epoch 12/15


  10/1149 […] - ETA: 0s - loss: 0.1403Epoch 6/15


  10/1149 […] - ETA: 0s - loss: 0.2906
 480/1148 [==========>…] - ETA: 1s - loss: 0.3428
 520/1149 [===========>…] - ETA: 0s - loss: 0.1102
 370/1148 [=======>…] - ETA: 0s - loss: 0.0812
 200/1149 [====>…] - ETA: 0s - loss: 0.1002
 210/1149 [====>…] - ETA: 0s - loss: 0.1352
 170/1149 [===>…] - ETA: 0s - loss: 0.1329
 610/1148 [=============>…] - ETA: 0s - loss: 0.3327
 710/1149 [================>…] - ETA: 0s - loss: 0.1226
 570/1148 [============>…] - ETA: 0s - loss: 0.0908
 360/1149 [=======>…] - ETA: 0s - loss: 0.1048
 370/1149 [=======>…] - ETA: 0s - loss: 0.1326
 370/1149 [=======>…] - ETA: 0s - loss: 0.1341
 740/1148 [=================>…] - ETA: 0s - loss: 0.3366
 930/1149 [======================>…] - ETA: 0s - loss: 0.1257
```

```
 760/1148 [==================>…] - ETA: 0s - loss: 0.0889
 530/1149 [===========>…] - ETA: 0s - loss: 0.1152
 570/1149 [=============>…] - ETA: 0s - loss: 0.1305
 560/1149 [=============>…] - ETA: 0s - loss: 0.1385
 890/1148 [=====================>…] - ETA: 0s - loss: 0.3350
1090/1149 [===========================>..] - ETA: 0s - loss: 0.1209
 930/1148 [=======================>…] - ETA: 0s - loss: 0.0872
 750/1149 [=================>…] - ETA: 0s - loss: 0.1226
1149/1149 [=============================] - 0s 284us/step - loss: 0.1208

 740/1149 [=================>…] - ETA: 0s - loss: 0.1507
 700/1149 [=================>…] - ETA: 0s - loss: 0.1335Epoch 12/15

  10/1149 […] - ETA: 0s - loss: 0.1283
 990/1148 [=======================>…] - ETA: 0s - loss: 0.3273Epoch 1/20

  10/1149 […] - ETA: 1:22 - loss: 1.0464
1120/1148 [===========================>.] - ETA: 0s - loss: 0.0893
 960/1149 [=======================>…] - ETA: 0s - loss: 0.1293
 930/1149 [======================>…] - ETA: 0s - loss: 0.1488
1148/1148 [=============================] - 0s 279us/step - loss: 0.0902

 880/1149 [====================>…] - ETA: 0s - loss: 0.1249
 250/1149 [=====>…] - ETA: 0s - loss: 0.1372Epoch 12/15

  10/1148 […] - ETA: 0s - loss: 0.1472
  60/1149 [>…] - ETA: 14s - loss: 1.2436
1130/1148 [===========================>.] - ETA: 0s - loss: 0.3155
1149/1149 [=============================] - 0s 265us/step - loss: 0.1244

1148/1148 [=============================] - 1s 874us/step - loss: 0.3136
Epoch 12/15

  10/1149 […] - ETA: 0s - loss: 1.0227Epoch 2/20

  10/1148 […] - ETA: 0s - loss: 0.2716
1050/1149 [=========================>…] - ETA: 0s - loss: 0.1369
 460/1149 [==========>…] - ETA: 0s - loss: 0.1200
1130/1149 [===========================>.] - ETA: 0s - loss: 0.1546
 190/1148 [===>…] - ETA: 0s - loss: 0.0844
1149/1149 [=============================] - 0s 279us/step - loss: 0.1537
Epoch 7/15

  10/1149 […] - ETA: 0s - loss: 0.1338
 120/1149 [==>…] - ETA: 7s - loss: 1.0146
1149/1149 [=============================] - 0s 303us/step - loss: 0.1348
Epoch 13/15
```

```
  10/1149 […] - ETA: 0s - loss: 0.1852
 140/1149 [==>…] - ETA: 0s - loss: 0.1674
 600/1149 [==============>…] - ETA: 0s - loss: 0.1273
 340/1148 [=======>…] - ETA: 0s - loss: 0.0837
 120/1148 [==>…] - ETA: 0s - loss: 0.2527
 100/1149 [=>…] - ETA: 0s - loss: 0.1338
 120/1149 [==>…] - ETA: 0s - loss: 0.0991
 190/1149 [===>…] - ETA: 0s - loss: 0.1513
 140/1149 [==>…] - ETA: 6s - loss: 0.9323
 690/1149 [================>…] - ETA: 0s - loss: 0.1305
 430/1148 [=========>…] - ETA: 0s - loss: 0.0794
 150/1149 [==>…] - ETA: 0s - loss: 0.1361
 160/1148 [===>…] - ETA: 0s - loss: 0.2874
 190/1149 [===>…] - ETA: 0s - loss: 0.1516
 250/1149 [=====>…] - ETA: 0s - loss: 0.1533
 170/1149 [===>…] - ETA: 5s - loss: 0.9642
 490/1148 [==========>…] - ETA: 0s - loss: 0.0787
 750/1149 [=================>…] - ETA: 0s - loss: 0.1267
 210/1149 [====>…] - ETA: 0s - loss: 0.1341
 220/1148 [====>…] - ETA: 0s - loss: 0.2597
 240/1149 [=====>…] - ETA: 0s - loss: 0.1519
 320/1149 [=======>…] - ETA: 0s - loss: 0.1402
 800/1149 [==================>…] - ETA: 0s - loss: 0.1254
 280/1149 [======>…] - ETA: 0s - loss: 0.1368
 540/1148 [============>…] - ETA: 0s - loss: 0.0783
 190/1149 [===>…] - ETA: 5s - loss: 0.9718
 290/1148 [======>…] - ETA: 0s - loss: 0.2443
 300/1149 [======>…] - ETA: 0s - loss: 0.1466
 370/1149 [========>…] - ETA: 0s - loss: 0.1428
 840/1149 [====================>…] - ETA: 0s - loss: 0.1236
 340/1148 [=======>…] - ETA: 0s - loss: 0.2286
 330/1149 [=======>…] - ETA: 0s - loss: 0.1347
 260/1149 [=====>…] - ETA: 3s - loss: 1.1896
 590/1148 [=============>…] - ETA: 0s - loss: 0.0812
 420/1149 [=========>…] - ETA: 0s - loss: 0.1336
 470/1149 [==========>…] - ETA: 0s - loss: 0.1375
 950/1149 [======================>…] - ETA: 0s - loss: 0.1199
 540/1148 [============>…] - ETA: 0s - loss: 0.1963
 400/1149 [=========>…] - ETA: 2s - loss: 1.1217
 480/1149 [==========>…] - ETA: 0s - loss: 0.1437
 740/1148 [=================>…] - ETA: 0s - loss: 0.0856
 550/1149 [=============>…] - ETA: 0s - loss: 0.1220
 610/1149 [==============>…] - ETA: 0s - loss: 0.1247
1100/1149 [===========================>..] - ETA: 0s - loss: 0.1178
 710/1148 [=================>…] - ETA: 0s - loss: 0.1883
 630/1149 [==============>…] - ETA: 0s - loss: 0.1365
 630/1149 [==============>…] - ETA: 0s - loss: 1.1688
 890/1148 [=====================>…] - ETA: 0s - loss: 0.0907
```

```
1149/1149 [==============================] - 1s 437us/step - loss: 0.1189
Epoch 13/15

  10/1149 [...] - ETA: 0s - loss: 0.0560
 700/1149 [================>...] - ETA: 0s - loss: 0.1193
 780/1149 [==================>...] - ETA: 0s - loss: 0.1247
 900/1148 [=====================>...] - ETA: 0s - loss: 0.1768
 820/1149 [===================>...] - ETA: 0s - loss: 0.1517
 710/1149 [================>...] - ETA: 0s - loss: 1.1394
1090/1148 [===========================>..] - ETA: 0s - loss: 0.0895Epoch 1/20

  10/1149 [...] - ETA: 1:56 - loss: 0.3725
 210/1149 [====>...] - ETA: 0s - loss: 0.1663
1148/1148 [==============================] - 1s 449us/step - loss: 0.0891
Epoch 13/15

  10/1148 [...] - ETA: 0s - loss: 0.1403
 830/1149 [====================>...] - ETA: 0s - loss: 0.1167
 910/1149 [======================>...] - ETA: 0s - loss: 0.1243
1040/1148 [===========================>...] - ETA: 0s - loss: 0.1664
 800/1149 [==================>...] - ETA: 0s - loss: 1.1466
 960/1149 [=======================>...] - ETA: 0s - loss: 0.1570
 190/1149 [===>...] - ETA: 5s - loss: 1.0262
 400/1149 [========>...] - ETA: 0s - loss: 0.1511
 190/1148 [===>...] - ETA: 0s - loss: 0.0861
 980/1149 [======================>...] - ETA: 0s - loss: 0.1271
1030/1149 [=========================>...] - ETA: 0s - loss: 0.1268
1130/1148 [===========================>.] - ETA: 0s - loss: 0.1604
1040/1149 [==========================>...] - ETA: 0s - loss: 1.1833
1110/1149 [===========================>..] - ETA: 0s - loss: 0.1488
1148/1148 [==============================] - 1s 492us/step - loss: 0.1599
Epoch 3/20

  10/1148 [...] - ETA: 0s - loss: 0.0931
1149/1149 [==============================] - 1s 499us/step - loss: 0.1235

 510/1149 [============>...] - ETA: 0s - loss: 0.1400Epoch 13/15

  10/1149 [...] - ETA: 0s - loss: 0.1299
 370/1148 [=======>...] - ETA: 0s - loss: 0.0812
1149/1149 [==============================] - 1s 472us/step - loss: 0.1329

1149/1149 [==============================] - 1s 1ms/step - loss: 1.1839
Epoch 2/20

  10/1149 [...] - ETA: 0s - loss: 0.7433
1149/1149 [==============================] - 1s 495us/step - loss: 0.1464
Epoch 14/15
```

```
  10/1149 […] - ETA: 0s - loss: 0.1483Epoch 8/15


  10/1149 […] - ETA: 1s - loss: 0.0955
 600/1149 [=============>…] - ETA: 0s - loss: 0.1374
  90/1148 [=>…] - ETA: 0s - loss: 0.1098
 210/1149 [====>…] - ETA: 5s - loss: 1.0505
 160/1149 [===>…] - ETA: 0s - loss: 0.2166
 540/1148 [============>…] - ETA: 0s - loss: 0.0783
 180/1149 [===>…] - ETA: 0s - loss: 1.1039
 160/1149 [===>…] - ETA: 0s - loss: 0.1244
 140/1149 [==>…] - ETA: 0s - loss: 0.1089
 270/1148 [======>…] - ETA: 0s - loss: 0.1125
 320/1149 [=======>…] - ETA: 3s - loss: 1.1618
 800/1149 [==================>…] - ETA: 0s - loss: 0.1319
 240/1149 [=====>…] - ETA: 0s - loss: 0.1785
 620/1148 [==============>…] - ETA: 0s - loss: 0.0812
 240/1149 [=====>…] - ETA: 0s - loss: 0.1561
 350/1149 [========>…] - ETA: 0s - loss: 0.1315
 280/1149 [======>…] - ETA: 0s - loss: 1.1377
 450/1148 [=========>…] - ETA: 0s - loss: 0.1092
1000/1149 [========================>…] - ETA: 0s - loss: 0.1248
 310/1149 [=======>…] - ETA: 0s - loss: 0.1633
 420/1149 [========>…] - ETA: 2s - loss: 1.0954
 710/1148 [================>…] - ETA: 0s - loss: 0.0897
 320/1149 [=======>…] - ETA: 0s - loss: 0.1355
 530/1149 [===========>…] - ETA: 0s - loss: 0.1230
 370/1149 [========>…] - ETA: 0s - loss: 1.0691
 470/1149 [==========>…] - ETA: 0s - loss: 0.1385
 570/1148 [============>…] - ETA: 0s - loss: 0.1133
 610/1149 [=============>…] - ETA: 1s - loss: 1.1560
1100/1149 [==========================>..] - ETA: 0s - loss: 0.1219
 900/1148 [=====================>…] - ETA: 0s - loss: 0.0899
 480/1149 [==========>…] - ETA: 0s - loss: 0.1307
 600/1149 [=============>…] - ETA: 0s - loss: 0.1189
 530/1149 [===========>…] - ETA: 0s - loss: 1.0960
1149/1149 [=============================] - 0s 360us/step - loss: 0.1192
Epoch 14/15


  10/1149 […] - ETA: 0s - loss: 0.1360
 710/1149 [================>…] - ETA: 0s - loss: 0.1251
 670/1148 [================>…] - ETA: 0s - loss: 0.1106
 710/1149 [================>…] - ETA: 0s - loss: 1.1146
1140/1148 [============================>.] - ETA: 0s - loss: 0.0882
 660/1149 [===============>…] - ETA: 0s - loss: 0.1272
1148/1148 [=============================] - 0s 333us/step - loss: 0.0880


 670/1149 [================>…] - ETA: 0s - loss: 1.0221
```

```
 660/1149 [================>…] - ETA: 0s - loss: 0.1187Epoch 14/15

  10/1148 […] - ETA: 0s - loss: 0.0738
 130/1149 [==>…] - ETA: 0s - loss: 0.1447
 900/1149 [=====================>…] - ETA: 0s - loss: 0.1202
 780/1148 [==================>…] - ETA: 0s - loss: 0.1167
 900/1149 [=====================>…] - ETA: 0s - loss: 1.1776
 770/1149 [==================>…] - ETA: 0s - loss: 0.1385
 820/1149 [===================>…] - ETA: 0s - loss: 1.0093
 850/1149 [===================>…] - ETA: 0s - loss: 0.1432
 170/1148 [===>…] - ETA: 0s - loss: 0.0877
 320/1149 [=======>…] - ETA: 0s - loss: 0.1244
1000/1148 [=======================>…] - ETA: 0s - loss: 0.1089
1000/1149 [=======================>…] - ETA: 0s - loss: 0.1150
1090/1149 [==========================>..] - ETA: 0s - loss: 1.1415
 840/1149 [===================>…] - ETA: 0s - loss: 0.1350
1070/1149 [========================>…] - ETA: 0s - loss: 0.1400
1149/1149 [=============================] - 2s 1ms/step - loss: 1.1165

 920/1149 [======================>…] - ETA: 0s - loss: 0.9987Epoch 2/20

  10/1149 […] - ETA: 0s - loss: 0.6976
 240/1148 [=====>…] - ETA: 0s - loss: 0.0804
 550/1149 [============>…] - ETA: 0s - loss: 0.1318
1149/1149 [=============================] - 0s 346us/step - loss: 0.1430

1148/1148 [=============================] - 0s 366us/step - loss: 0.1088
Epoch 9/15

  10/1149 […] - ETA: 0s - loss: 0.0484Epoch 4/20

  10/1148 […] - ETA: 0s - loss: 0.1091
1110/1149 [==========================>..] - ETA: 0s - loss: 0.1223
 980/1149 [=======================>…] - ETA: 0s - loss: 0.1300
1149/1149 [=============================] - 0s 381us/step - loss: 0.1229

1090/1149 [==========================>..] - ETA: 0s - loss: 0.9498Epoch 14/15

  10/1149 […] - ETA: 0s - loss: 0.0768
 420/1148 [========>…] - ETA: 0s - loss: 0.0790
 200/1149 [====>…] - ETA: 0s - loss: 0.8645
 710/1149 [================>…] - ETA: 0s - loss: 0.1249
1149/1149 [=============================] - 0s 389us/step - loss: 0.9284
Epoch 3/20

  10/1149 […] - ETA: 0s - loss: 0.8726
 180/1149 [===>…] - ETA: 0s - loss: 0.1712
 170/1148 [===>…] - ETA: 0s - loss: 0.0916
```

```
1149/1149 [==============================] - 0s 402us/step - loss: 0.1317
Epoch 15/15

  10/1149 [...] - ETA: 0s - loss: 0.0358
 180/1149 [===>...] - ETA: 0s - loss: 0.1484
 650/1148 [==============>...] - ETA: 0s - loss: 0.0814
 360/1149 [========>...] - ETA: 0s - loss: 0.7968
 840/1149 [====================>...] - ETA: 0s - loss: 0.1188
 200/1149 [====>...] - ETA: 0s - loss: 0.5587
 350/1149 [========>...] - ETA: 0s - loss: 0.1498
 320/1148 [========>...] - ETA: 0s - loss: 0.0927
 200/1149 [====>...] - ETA: 0s - loss: 0.1704
 360/1149 [========>...] - ETA: 0s - loss: 0.1288
 840/1148 [====================>...] - ETA: 0s - loss: 0.0860
 520/1149 [============>...] - ETA: 0s - loss: 0.7279
 980/1149 [========================>...] - ETA: 0s - loss: 0.1161
 480/1149 [==========>...] - ETA: 0s - loss: 0.1403
 360/1149 [========>...] - ETA: 0s - loss: 0.4644
 470/1148 [==========>...] - ETA: 0s - loss: 0.0952
 380/1149 [========>...] - ETA: 0s - loss: 0.1398
 540/1149 [============>...] - ETA: 0s - loss: 0.1163
1030/1148 [==========================>...] - ETA: 0s - loss: 0.0866
 700/1149 [=================>...] - ETA: 0s - loss: 0.6885
1149/1149 [==============================] - 0s 317us/step - loss: 0.1177
Epoch 15/15

  10/1149 [...] - ETA: 0s - loss: 0.0577
 650/1148 [==============>...] - ETA: 0s - loss: 0.0967
 670/1149 [================>...] - ETA: 0s - loss: 0.1387
 440/1149 [=========>...] - ETA: 0s - loss: 0.4446
 570/1149 [============>...] - ETA: 0s - loss: 0.1355
1148/1148 [==============================] - 0s 302us/step - loss: 0.0865
Epoch 15/15

  10/1148 [...] - ETA: 0s - loss: 0.0427
 730/1149 [==================>...] - ETA: 0s - loss: 0.1255
 900/1149 [======================>...] - ETA: 0s - loss: 0.6362
 200/1149 [====>...] - ETA: 0s - loss: 0.1109
 860/1149 [====================>...] - ETA: 0s - loss: 0.1361
 860/1148 [====================>...] - ETA: 0s - loss: 0.0932
 490/1149 [==========>...] - ETA: 0s - loss: 0.4251
 770/1149 [==================>...] - ETA: 0s - loss: 0.1351
 170/1148 [===>...] - ETA: 0s - loss: 0.0901
 920/1149 [======================>...] - ETA: 0s - loss: 0.1249
1080/1149 [==========================>..] - ETA: 0s - loss: 0.5989
 420/1149 [=========>...] - ETA: 0s - loss: 0.1341
1050/1149 [=========================>...] - ETA: 0s - loss: 0.1408
1020/1148 [=========================>...] - ETA: 0s - loss: 0.0899
```

```
 610/1149 [==============>…] - ETA: 0s - loss: 0.3937
1149/1149 [==============================] - 0s 296us/step - loss: 0.5907
Epoch 3/20

  10/1149 […] - ETA: 0s - loss: 0.9238
 980/1149 [=======================>…] - ETA: 0s - loss: 0.1293
 300/1148 [======>…] - ETA: 0s - loss: 0.0905
1149/1149 [==============================] - 0s 291us/step - loss: 0.1407
Epoch 10/15

  10/1149 […] - ETA: 0s - loss: 0.2030
1100/1149 [==========================>..] - ETA: 0s - loss: 0.1235
1148/1148 [==============================] - 0s 305us/step - loss: 0.0927
Epoch 5/20

  10/1148 […] - ETA: 0s - loss: 0.1380
1149/1149 [==============================] - 0s 284us/step - loss: 0.1219
Epoch 15/15

  10/1149 […] - ETA: 0s - loss: 0.2104
 650/1149 [===============>…] - ETA: 0s - loss: 0.1215
 700/1149 [=================>…] - ETA: 0s - loss: 0.3959
1149/1149 [==============================] - 0s 268us/step - loss: 0.1301

 220/1149 [====>…] - ETA: 0s - loss: 0.4048
 450/1148 [=========>…] - ETA: 0s - loss: 0.0880
 200/1149 [====>…] - ETA: 0s - loss: 0.1297
 200/1148 [====>…] - ETA: 0s - loss: 0.1115
 830/1149 [====================>…] - ETA: 0s - loss: 0.1223
 200/1149 [====>…] - ETA: 0s - loss: 0.1337
 900/1149 [=====================>…] - ETA: 0s - loss: 0.3764
 390/1149 [=========>…] - ETA: 0s - loss: 0.3647
 650/1148 [===============>…] - ETA: 0s - loss: 0.0843
 350/1149 [========>…] - ETA: 0s - loss: 0.1334
 380/1148 [========>…] - ETA: 0s - loss: 0.1021
1000/1149 [========================>…] - ETA: 0s - loss: 0.1190
 370/1149 [========>…] - ETA: 0s - loss: 0.1478
1130/1149 [=============================>.] - ETA: 0s - loss: 0.3477
1149/1149 [==============================] - 0s 372us/step - loss: 0.3457

 530/1149 [============>…] - ETA: 0s - loss: 0.3632Epoch 4/20

  10/1149 […] - ETA: 0s - loss: 0.1052
 870/1148 [=====================>…] - ETA: 0s - loss: 0.0880
 550/1149 [=============>…] - ETA: 0s - loss: 0.1337
 570/1148 [=============>…] - ETA: 0s - loss: 0.0953
 510/1149 [============>…] - ETA: 0s - loss: 0.1450
 990/1148 [=======================>…] - ETA: 0s - loss: 0.0880
```

```
1149/1149 [==============================] - 0s 285us/step - loss: 0.1168

 620/1149 [===============>…] - ETA: 0s - loss: 0.3459
 640/1149 [===============>…] - ETA: 0s - loss: 0.1337
 130/1149 [==>…] - ETA: 0s - loss: 0.1606
 620/1148 [===============>…] - ETA: 0s - loss: 0.0901
 560/1149 [=============>…] - ETA: 0s - loss: 0.1427
 670/1149 [===============>…] - ETA: 0s - loss: 0.3401
1040/1148 [==========================>…] - ETA: 0s - loss: 0.0878
 720/1149 [================>…] - ETA: 0s - loss: 0.1323
 170/1149 [===>…] - ETA: 0s - loss: 0.1416
 610/1149 [=============>…] - ETA: 0s - loss: 0.1412
 710/1149 [================>…] - ETA: 0s - loss: 0.3378
 690/1148 [================>…] - ETA: 0s - loss: 0.0904
1080/1148 [===========================>..] - ETA: 0s - loss: 0.0870
 750/1149 [=================>…] - ETA: 0s - loss: 0.1336
 660/1149 [===============>…] - ETA: 0s - loss: 0.1373
 750/1149 [=================>…] - ETA: 0s - loss: 0.3338
 210/1149 [====>…] - ETA: 0s - loss: 0.1361
 730/1148 [=================>…] - ETA: 0s - loss: 0.0894
1130/1148 [============================>.] - ETA: 0s - loss: 0.0860
 780/1149 [=================>…] - ETA: 0s - loss: 0.1319
 690/1149 [================>…] - ETA: 0s - loss: 0.1346
1148/1148 [==============================] - 1s 456us/step - loss: 0.0860

 770/1149 [==================>…] - ETA: 0s - loss: 0.3339
 250/1149 [=====>…] - ETA: 0s - loss: 0.1435
 770/1148 [==================>…] - ETA: 0s - loss: 0.0871
 830/1149 [===================>…] - ETA: 0s - loss: 0.1298
 840/1149 [===================>…] - ETA: 0s - loss: 0.3333
 770/1149 [==================>…] - ETA: 0s - loss: 0.1276
 860/1148 [====================>…] - ETA: 0s - loss: 0.0870
 890/1149 [=====================>…] - ETA: 0s - loss: 0.1302
 290/1149 [======>…] - ETA: 1s - loss: 0.1466
 920/1149 [======================>…] - ETA: 0s - loss: 0.3253
 830/1149 [===================>…] - ETA: 0s - loss: 0.1270
 970/1148 [=======================>…] - ETA: 0s - loss: 0.0860
1070/1149 [==========================>…] - ETA: 0s - loss: 0.1330
 420/1149 [=========>…] - ETA: 0s - loss: 0.1526
1149/1149 [==============================] - 1s 490us/step - loss: 0.1380
Epoch 11/15

  10/1149 […] - ETA: 0s - loss: 0.1310
1130/1149 [============================>.] - ETA: 0s - loss: 0.3103
1020/1149 [=========================>…] - ETA: 0s - loss: 0.1244
1149/1149 [==============================] - 1s 514us/step - loss: 0.3123
Epoch 4/20
```

```
   10/1149 […] - ETA: 0s - loss: 0.2717
1120/1148 [===========================>.] - ETA: 0s - loss: 0.0855
1148/1148 [==============================] - 1s 509us/step - loss: 0.0860


 560/1149 [=============>…] - ETA: 0s - loss: 0.1690Epoch 6/20


   10/1148 […] - ETA: 0s - loss: 0.1287
1149/1149 [==============================] - 1s 517us/step - loss: 0.1220


 170/1149 [===>…] - ETA: 0s - loss: 0.1500
 170/1149 [===>…] - ETA: 0s - loss: 0.2750
 700/1149 [=================>…] - ETA: 0s - loss: 0.1657
 150/1148 [==>…] - ETA: 0s - loss: 0.0830
 330/1149 [=======>…] - ETA: 0s - loss: 0.1491
 310/1149 [=======>…] - ETA: 0s - loss: 0.2628
 840/1149 [====================>…] - ETA: 0s - loss: 0.1829
 300/1148 [======>…] - ETA: 0s - loss: 0.0784
 480/1149 [==========>…] - ETA: 0s - loss: 0.1337
 490/1149 [==========>…] - ETA: 0s - loss: 0.2411
1060/1149 [==========================>…] - ETA: 0s - loss: 0.1752
 460/1148 [==========>…] - ETA: 0s - loss: 0.0790
 660/1149 [================>…] - ETA: 0s - loss: 0.1276
1149/1149 [==============================] - 1s 557us/step - loss: 0.1718


 690/1149 [================>…] - ETA: 0s - loss: 0.2479Epoch 5/20


   10/1149 […] - ETA: 1s - loss: 0.0892
 630/1148 [===============>…] - ETA: 0s - loss: 0.0818
 820/1149 [====================>…] - ETA: 0s - loss: 0.1384
 860/1149 [=====================>…] - ETA: 0s - loss: 0.2600
 190/1149 [===>…] - ETA: 0s - loss: 0.1488
 850/1148 [====================>…] - ETA: 0s - loss: 0.0852
1090/1149 [===========================>..] - ETA: 0s - loss: 0.1392
1060/1149 [==========================>…] - ETA: 0s - loss: 0.2526
1149/1149 [==============================] - 0s 286us/step - loss: 0.1368
Epoch 12/15


   10/1149 […] - ETA: 0s - loss: 0.2463
 360/1149 [=======>…] - ETA: 0s - loss: 0.1450
1050/1148 [=========================>…] - ETA: 0s - loss: 0.0842
1149/1149 [==============================] - 0s 298us/step - loss: 0.2518
Epoch 5/20


   10/1149 […] - ETA: 0s - loss: 0.2411
 210/1149 [====>…] - ETA: 0s - loss: 0.1369
 560/1149 [=============>…] - ETA: 0s - loss: 0.1405
1148/1148 [==============================] - 0s 305us/step - loss: 0.0829
Epoch 7/20
```

```
  10/1148 […] - ETA: 0s - loss: 0.0685
 220/1149 [====>…] - ETA: 0s - loss: 0.2200
 750/1149 [=================>…] - ETA: 0s - loss: 0.1501
 360/1149 [========>…] - ETA: 0s - loss: 0.1358
 170/1148 [===>…] - ETA: 0s - loss: 0.0957
 410/1149 [========>…] - ETA: 0s - loss: 0.2300
 940/1149 [=====================>…] - ETA: 0s - loss: 0.1619
 520/1149 [===========>…] - ETA: 0s - loss: 0.1239
 330/1148 [=======>…] - ETA: 0s - loss: 0.0824
 620/1149 [==============>…] - ETA: 0s - loss: 0.2238
1120/1149 [===========================>.] - ETA: 0s - loss: 0.1564
 720/1149 [=================>…] - ETA: 0s - loss: 0.1321
1149/1149 [=============================] - 0s 285us/step - loss: 0.1563
Epoch 6/20

  10/1149 […] - ETA: 0s - loss: 0.1191
 550/1148 [============>…] - ETA: 0s - loss: 0.0797
 750/1149 [=================>…] - ETA: 0s - loss: 0.2260
 900/1149 [====================>…] - ETA: 0s - loss: 0.1329
 710/1148 [================>…] - ETA: 0s - loss: 0.0824
 170/1149 [===>…] - ETA: 0s - loss: 0.1488
 910/1149 [====================>…] - ETA: 0s - loss: 0.2303
1040/1149 [=========================>…] - ETA: 0s - loss: 0.1374
 930/1148 [======================>…] - ETA: 0s - loss: 0.0799
 340/1149 [=======>…] - ETA: 0s - loss: 0.1375
1149/1149 [=============================] - 0s 294us/step - loss: 0.1359

1080/1149 [==========================>..] - ETA: 0s - loss: 0.2247Epoch 13/15

  10/1149 […] - ETA: 0s - loss: 0.0323
1149/1149 [=============================] - 0s 287us/step - loss: 0.2212
Epoch 6/20

  10/1149 […] - ETA: 0s - loss: 0.0975
 490/1149 [===========>…] - ETA: 0s - loss: 0.1413
1130/1148 [============================>.] - ETA: 0s - loss: 0.0815
1148/1148 [=============================] - 0s 276us/step - loss: 0.0814
Epoch 8/20

  10/1148 […] - ETA: 0s - loss: 0.0186Epoch 1/20

  10/1149 […] - ETA: 57s - loss: 0.3676
 200/1149 [====>…] - ETA: 0s - loss: 0.1430
 170/1149 [===>…] - ETA: 0s - loss: 0.2140
 650/1149 [==============>…] - ETA: 0s - loss: 0.1403
 220/1148 [====>…] - ETA: 0s - loss: 0.0682
 150/1149 [==>…] - ETA: 3s - loss: 1.1271
```

```
 410/1149 [=========>…] - ETA: 0s - loss: 0.1322
 400/1149 [=========>…] - ETA: 0s - loss: 0.2077Epoch 1/20

  10/1149 […] - ETA: 53s - loss: 1.3722
 820/1149 [====================>…] - ETA: 0s - loss: 0.1406
 410/1148 [=========>…] - ETA: 0s - loss: 0.0873
 290/1149 [======>…] - ETA: 1s - loss: 1.1908
 580/1149 [=============>…] - ETA: 0s - loss: 0.1422Epoch 1/5

  20/1148 […] - ETA: 23s - loss: 0.3231
 610/1149 [=============>…] - ETA: 0s - loss: 0.2140
 120/1149 [==>…] - ETA: 4s - loss: 1.1847
 980/1149 [=======================>…] - ETA: 0s - loss: 0.1411
 580/1148 [=============>…] - ETA: 0s - loss: 0.0833
 510/1149 [============>…] - ETA: 0s - loss: 1.1700
 740/1149 [==================>…] - ETA: 0s - loss: 0.1411Epoch 1/5

  20/1149 […] - ETA: 22s - loss: 1.1024
 220/1148 [====>…] - ETA: 2s - loss: 0.3821
 840/1149 [====================>…] - ETA: 0s - loss: 0.2097
1149/1149 [=============================] - 0s 313us/step - loss: 0.1512
Epoch 7/20

  10/1149 […] - ETA: 0s - loss: 0.1731
 270/1149 [======>…] - ETA: 1s - loss: 1.0736
 750/1148 [==================>…] - ETA: 0s - loss: 0.0836
 710/1149 [=================>…] - ETA: 0s - loss: 1.1786
 940/1149 [======================>…] - ETA: 0s - loss: 0.1416
 140/1149 [==>…] - ETA: 3s - loss: 0.9801
1000/1149 [========================>…] - ETA: 0s - loss: 0.2001
 460/1148 [==========>…] - ETA: 0s - loss: 0.3632
 220/1149 [====>…] - ETA: 0s - loss: 0.1618
 450/1149 [=========>…] - ETA: 0s - loss: 1.1945
 930/1148 [======================>…] - ETA: 0s - loss: 0.0822
 930/1149 [======================>…] - ETA: 0s - loss: 1.1814
1120/1149 [===========================>.] - ETA: 0s - loss: 0.1346
1149/1149 [=============================] - 0s 263us/step - loss: 0.1998

 280/1149 [======>…] - ETA: 1s - loss: 1.1408Epoch 7/20

  10/1149 […] - ETA: 0s - loss: 0.1270
1149/1149 [=============================] - 0s 282us/step - loss: 0.1345
Epoch 14/15

  10/1149 […] - ETA: 0s - loss: 0.1123
 740/1148 [==================>…] - ETA: 0s - loss: 0.3567
 380/1149 [========>…] - ETA: 0s - loss: 0.1917
 650/1149 [==============>…] - ETA: 0s - loss: 1.1737
```

```
1080/1148 [==========================>..] - ETA: 0s - loss: 0.0820
1130/1149 [==========================>.] - ETA: 0s - loss: 1.1163
1149/1149 [============================] - 1s 715us/step - loss: 1.1214
Epoch 2/20

  10/1149 [...] - ETA: 0s - loss: 0.5167
 460/1149 [==========>...] - ETA: 0s - loss: 1.0517
 190/1149 [===>...] - ETA: 0s - loss: 0.1653
1148/1148 [============================] - 0s 292us/step - loss: 0.0805
Epoch 9/20

  10/1148 [...] - ETA: 0s - loss: 0.0785
 220/1149 [====>...] - ETA: 0s - loss: 0.0968
 980/1148 [=======================>...] - ETA: 0s - loss: 0.3590
 600/1149 [=============>...] - ETA: 0s - loss: 0.1621
 820/1149 [===================>...] - ETA: 0s - loss: 1.1708
 230/1149 [=====>...] - ETA: 0s - loss: 0.8833
 390/1149 [=========>...] - ETA: 0s - loss: 0.1807
 430/1149 [=========>...] - ETA: 0s - loss: 0.1155
 600/1149 [=============>...] - ETA: 0s - loss: 1.1042
 200/1148 [====>...] - ETA: 0s - loss: 0.0911
1148/1148 [============================] - 1s 596us/step - loss: 0.3583
Epoch 2/5

  20/1148 [...] - ETA: 0s - loss: 0.3419
 780/1149 [==================>...] - ETA: 0s - loss: 0.1534
1020/1149 [=========================>...] - ETA: 0s - loss: 1.1097
 450/1149 [=========>...] - ETA: 0s - loss: 1.0598
 560/1149 [=============>...] - ETA: 0s - loss: 0.1834
 620/1149 [==============>...] - ETA: 0s - loss: 0.1180
 380/1148 [=======>...] - ETA: 0s - loss: 0.0810
 840/1149 [====================>...] - ETA: 0s - loss: 1.1604
1149/1149 [============================] - 1s 720us/step - loss: 1.0702

 360/1148 [=======>...] - ETA: 0s - loss: 0.3473Epoch 2/20

  10/1149 [...] - ETA: 0s - loss: 1.5138
 980/1149 [=======================>...] - ETA: 0s - loss: 0.1478
 630/1149 [==============>...] - ETA: 0s - loss: 1.0274
 750/1149 [=================>...] - ETA: 0s - loss: 0.1798
 800/1149 [==================>...] - ETA: 0s - loss: 0.1204
 580/1148 [=============>...] - ETA: 0s - loss: 0.0777
1080/1149 [==========================>..] - ETA: 0s - loss: 1.1796
1149/1149 [============================] - 0s 266us/step - loss: 0.1474

 210/1149 [====>...] - ETA: 0s - loss: 1.1372
 660/1148 [================>...] - ETA: 0s - loss: 0.3227Epoch 8/20
```

```
  10/1149 […] - ETA: 0s - loss: 0.1334
1149/1149 [==============================] - 1s 632us/step - loss: 1.1806
Epoch 2/5

  20/1149 […] - ETA: 0s - loss: 0.4998
 790/1149 [==================>…] - ETA: 0s - loss: 0.9547
 920/1149 [======================>…] - ETA: 0s - loss: 0.1819
 970/1149 [=======================>…] - ETA: 0s - loss: 0.1328
 780/1148 [==================>…] - ETA: 0s - loss: 0.0813
 960/1148 [=======================>…] - ETA: 0s - loss: 0.3008
 390/1149 [========>…] - ETA: 0s - loss: 0.9513
 200/1149 [====>…] - ETA: 0s - loss: 0.1857
 240/1149 [=====>…] - ETA: 0s - loss: 1.1766
1120/1149 [===========================>.] - ETA: 0s - loss: 0.1843
 980/1149 [========================>…] - ETA: 0s - loss: 0.9131
1149/1149 [==============================] - 0s 273us/step - loss: 0.1833


1149/1149 [==============================] - 0s 270us/step - loss: 0.1330
Epoch 8/20

  10/1149 […] - ETA: 0s - loss: 0.0810
 990/1148 [========================>…] - ETA: 0s - loss: 0.0800Epoch 15/15

  10/1149 […] - ETA: 0s - loss: 0.0430
 470/1149 [==========>…] - ETA: 0s - loss: 0.8466
1148/1148 [==============================] - 0s 181us/step - loss: 0.2904

 430/1149 [=========>…] - ETA: 0s - loss: 0.1792Epoch 3/5

  20/1148 […] - ETA: 0s - loss: 0.1682
 480/1149 [==========>…] - ETA: 0s - loss: 1.1316
1149/1149 [==============================] - 0s 265us/step - loss: 0.8540

1148/1148 [==============================] - 0s 259us/step - loss: 0.0799
Epoch 3/20

  10/1149 […] - ETA: 0s - loss: 0.5063Epoch 10/20

  10/1148 […] - ETA: 0s - loss: 0.0704
 220/1149 [====>…] - ETA: 0s - loss: 0.1400
 210/1149 [====>…] - ETA: 0s - loss: 0.1850
 560/1149 [=============>…] - ETA: 0s - loss: 0.8168
 660/1149 [================>…] - ETA: 0s - loss: 0.1577
 260/1148 [=====>…] - ETA: 0s - loss: 0.2263
 760/1149 [==================>…] - ETA: 0s - loss: 1.1413
 210/1148 [====>…] - ETA: 0s - loss: 0.0889
 170/1149 [===>…] - ETA: 0s - loss: 0.4744
 390/1149 [========>…] - ETA: 0s - loss: 0.1817
```

```
 420/1149 [=========>…] - ETA: 0s - loss: 0.1430
 830/1149 [====================>…] - ETA: 0s - loss: 0.1555
 690/1149 [=================>…] - ETA: 0s - loss: 0.7896
 600/1148 [==============>…] - ETA: 0s - loss: 0.2217
1140/1149 [============================>.] - ETA: 0s - loss: 1.0995
1149/1149 [=============================] - 0s 184us/step - loss: 1.1000
Epoch 3/5

  20/1149 […] - ETA: 0s - loss: 0.5515
 430/1148 [=========>…] - ETA: 0s - loss: 0.0779
 290/1149 [======>…] - ETA: 0s - loss: 0.4400
 610/1149 [=============>…] - ETA: 0s - loss: 0.1324
 560/1149 [============>…] - ETA: 0s - loss: 0.1791
 830/1149 [===================>…] - ETA: 0s - loss: 0.8030
 990/1149 [=======================>…] - ETA: 0s - loss: 0.1496
 900/1148 [=====================>…] - ETA: 0s - loss: 0.2178
 320/1149 [=======>…] - ETA: 0s - loss: 0.8130
 610/1148 [=============>…] - ETA: 0s - loss: 0.0813
 420/1149 [=========>…] - ETA: 0s - loss: 0.4570
1148/1148 [=============================] - 0s 173us/step - loss: 0.2042

 760/1149 [=================>…] - ETA: 0s - loss: 0.1767
 800/1149 [===================>…] - ETA: 0s - loss: 0.1309Epoch 4/5

  20/1148 […] - ETA: 0s - loss: 0.1251
1149/1149 [=============================] - 0s 266us/step - loss: 0.1461

 990/1149 [=======================>…] - ETA: 0s - loss: 0.7781Epoch 9/20

  10/1149 […] - ETA: 0s - loss: 0.0833
 620/1149 [==============>…] - ETA: 0s - loss: 0.8778
 770/1148 [==================>…] - ETA: 0s - loss: 0.0772
 580/1149 [=============>…] - ETA: 0s - loss: 0.4423
1149/1149 [=============================] - 0s 352us/step - loss: 0.7618

 920/1149 [=====================>…] - ETA: 0s - loss: 0.1743
 950/1149 [======================>…] - ETA: 0s - loss: 0.1382Epoch 3/20

  10/1149 […] - ETA: 0s - loss: 0.6877
 380/1148 [=======>…] - ETA: 0s - loss: 0.1645
 160/1149 [===>…] - ETA: 0s - loss: 0.1232
1000/1149 [=======================>…] - ETA: 0s - loss: 0.8516
 920/1148 [======================>…] - ETA: 0s - loss: 0.0795
 700/1149 [================>…] - ETA: 0s - loss: 0.4190
1060/1149 [=========================>…] - ETA: 0s - loss: 0.1353
1050/1149 [=========================>…] - ETA: 0s - loss: 0.1726
 180/1149 [===>…] - ETA: 0s - loss: 0.4675
 700/1148 [================>…] - ETA: 0s - loss: 0.1546
```

```
1149/1149 [==============================] - 0s 169us/step - loss: 0.8616
Epoch 4/5

  20/1149 [...] - ETA: 0s - loss: 0.2535
 310/1149 [=======>...] - ETA: 0s - loss: 0.1501
1149/1149 [==============================] - 0s 295us/step - loss: 0.1322

1060/1148 [=========================>...] - ETA: 0s - loss: 0.0794
 900/1149 [=====================>...] - ETA: 0s - loss: 0.3779
1149/1149 [==============================] - 0s 312us/step - loss: 0.1706
Epoch 9/20

  10/1149 [...] - ETA: 0s - loss: 0.2814
 350/1149 [========>...] - ETA: 0s - loss: 0.4908
1060/1148 [=========================>...] - ETA: 0s - loss: 0.1510
 360/1149 [========>...] - ETA: 0s - loss: 0.5830
 480/1149 [===========>...] - ETA: 0s - loss: 0.1370
1148/1148 [==============================] - 0s 150us/step - loss: 0.1463

1148/1148 [==============================] - 0s 300us/step - loss: 0.0796
Epoch 5/5

  20/1148 [...] - ETA: 0s - loss: 0.0970Epoch 11/20

  10/1148 [...] - ETA: 0s - loss: 0.0550
1080/1149 [===========================>..] - ETA: 0s - loss: 0.3508
 540/1149 [=============>...] - ETA: 0s - loss: 0.4716
 150/1149 [==>...] - ETA: 0s - loss: 0.1523
1149/1149 [==============================] - 0s 334us/step - loss: 0.3375

 740/1149 [==================>...] - ETA: 0s - loss: 0.5619Epoch 4/20

  10/1149 [...] - ETA: 0s - loss: 0.2886
 680/1149 [=================>...] - ETA: 0s - loss: 0.1314
 200/1148 [====>...] - ETA: 0s - loss: 0.0648
 420/1148 [=========>...] - ETA: 0s - loss: 0.1197
 730/1149 [==================>...] - ETA: 0s - loss: 0.4128
 330/1149 [=======>...] - ETA: 0s - loss: 0.1499
1080/1149 [===========================>..] - ETA: 0s - loss: 0.5320
 170/1149 [===>...] - ETA: 0s - loss: 0.2135
 880/1149 [=====================>...] - ETA: 0s - loss: 0.1340
 410/1148 [=========>...] - ETA: 0s - loss: 0.0691
 760/1148 [==================>...] - ETA: 0s - loss: 0.1141
1149/1149 [==============================] - 0s 148us/step - loss: 0.5322
Epoch 5/5

  20/1149 [...] - ETA: 0s - loss: 0.4001
 900/1149 [=====================>...] - ETA: 0s - loss: 0.3846
```

```
 550/1149 [=============>…] - ETA: 0s - loss: 0.1514
1040/1149 [=========================>…] - ETA: 0s - loss: 0.1453
 320/1149 [=======>…] - ETA: 0s - loss: 0.2186
 590/1148 [=============>…] - ETA: 0s - loss: 0.0816
1020/1148 [========================>…] - ETA: 0s - loss: 0.1213
 320/1149 [=======>…] - ETA: 0s - loss: 0.3857
1148/1148 [=============================] - 0s 155us/step - loss: 0.1289

1149/1149 [=============================] - 0s 307us/step - loss: 0.1430
Epoch 10/20

  10/1149 […] - ETA: 0s - loss: 0.2113
1060/1149 [=========================>…] - ETA: 0s - loss: 0.3718
 790/1149 [===================>…] - ETA: 0s - loss: 0.1504
 460/1149 [==========>…] - ETA: 0s - loss: 0.2097
 770/1148 [===================>…] - ETA: 0s - loss: 0.0793
 680/1149 [===============>…] - ETA: 0s - loss: 0.3231
1149/1149 [=============================] - 0s 300us/step - loss: 0.3580
Epoch 4/20

  10/1149 […] - ETA: 0s - loss: 0.1380
 220/1149 [====>…] - ETA: 0s - loss: 0.1624
 970/1149 [========================>…] - ETA: 0s - loss: 0.1522
 650/1149 [==============>…] - ETA: 0s - loss: 0.1966
 950/1148 [======================>…] - ETA: 0s - loss: 0.0791
1120/1149 [===========================>.] - ETA: 0s - loss: 0.2901
1149/1149 [=============================] - 0s 141us/step - loss: 0.2894

 180/1149 [===>…] - ETA: 0s - loss: 0.1871
 410/1149 [========>…] - ETA: 0s - loss: 0.1335
1149/1149 [=============================] - 0s 277us/step - loss: 0.1603
Epoch 10/20

  10/1149 […] - ETA: 0s - loss: 0.1387
 810/1149 [===================>…] - ETA: 0s - loss: 0.1832
1120/1148 [===========================>.] - ETA: 0s - loss: 0.0792
1148/1148 [=============================] - 0s 275us/step - loss: 0.0790
Epoch 12/20

  10/1148 […] - ETA: 0s - loss: 0.2015
 390/1149 [========>…] - ETA: 0s - loss: 0.1960
 630/1149 [==============>…] - ETA: 0s - loss: 0.1262
 200/1149 [====>…] - ETA: 0s - loss: 0.1619
1000/1149 [========================>…] - ETA: 0s - loss: 0.1808
 180/1148 [===>…] - ETA: 0s - loss: 0.0637
 600/1149 [==============>…] - ETA: 0s - loss: 0.1957
 830/1149 [===================>…] - ETA: 0s - loss: 0.1416
 380/1149 [=======>…] - ETA: 0s - loss: 0.1633
```

```
1149/1149 [==============================] - 0s 317us/step - loss: 0.1780
Epoch 5/20

  10/1149 […] - ETA: 0s - loss: 0.1892
 370/1148 [========>…] - ETA: 0s - loss: 0.0796
 770/1149 [==================>…] - ETA: 0s - loss: 0.1891
1020/1149 [========================>…] - ETA: 0s - loss: 0.1417
 570/1149 [============>…] - ETA: 0s - loss: 0.1615
 190/1149 [===>…] - ETA: 0s - loss: 0.1427
 550/1148 [============>…] - ETA: 0s - loss: 0.0771
 930/1149 [======================>…] - ETA: 0s - loss: 0.1979
1149/1149 [==============================] - 0s 265us/step - loss: 0.1415
Epoch 11/20

  10/1149 […] - ETA: 0s - loss: 0.0284
 750/1149 [==================>…] - ETA: 0s - loss: 0.1566
 340/1149 [=======>…] - ETA: 0s - loss: 0.1494
 690/1148 [================>…] - ETA: 0s - loss: 0.0764
1100/1149 [===========================>..] - ETA: 0s - loss: 0.1882
 180/1149 [===>…] - ETA: 0s - loss: 0.0984
1149/1149 [==============================] - 0s 283us/step - loss: 0.1895
Epoch 5/20

  10/1149 […] - ETA: 0s - loss: 0.2674
 930/1149 [======================>…] - ETA: 0s - loss: 0.1568
 510/1149 [===========>…] - ETA: 0s - loss: 0.1630
 830/1148 [====================>…] - ETA: 0s - loss: 0.0757
 310/1149 [=======>…] - ETA: 0s - loss: 0.1092
 600/1149 [=============>…] - ETA: 0s - loss: 0.1565
1040/1149 [=========================>…] - ETA: 0s - loss: 0.1518
 120/1149 [==>…] - ETA: 0s - loss: 0.1466
 890/1148 [======================>…] - ETA: 0s - loss: 0.0779
 370/1149 [========>…] - ETA: 0s - loss: 0.1134
 660/1149 [===============>…] - ETA: 0s - loss: 0.1542
1100/1149 [===========================>..] - ETA: 0s - loss: 0.1507
 190/1149 [===>…] - ETA: 0s - loss: 0.1417
 960/1148 [=======================>…] - ETA: 0s - loss: 0.0798
 420/1149 [=========>…] - ETA: 0s - loss: 0.1316
1149/1149 [==============================] - 0s 375us/step - loss: 0.1531

 710/1149 [================>…] - ETA: 0s - loss: 0.1520
 250/1149 [=====>…] - ETA: 0s - loss: 0.1832Epoch 11/20

  10/1149 […] - ETA: 1s - loss: 0.0689
1020/1148 [========================>…] - ETA: 0s - loss: 0.0789
 490/1149 [==========>…] - ETA: 0s - loss: 0.1321
  60/1149 [>…] - ETA: 1s - loss: 0.1474
 770/1149 [==================>…] - ETA: 0s - loss: 0.1623
```

```
 320/1149 [=======>…] - ETA: 0s - loss: 0.1641
1070/1148 [==========================>…] - ETA: 0s - loss: 0.0788
 520/1149 [============>…] - ETA: 0s - loss: 0.1304
 110/1149 [=>…] - ETA: 1s - loss: 0.1304
 400/1149 [=========>…] - ETA: 0s - loss: 0.1703
 830/1149 [====================>…] - ETA: 0s - loss: 0.1607
1140/1148 [============================>.] - ETA: 0s - loss: 0.0795
 580/1149 [=============>…] - ETA: 0s - loss: 0.1401
1148/1148 [=============================] - 1s 498us/step - loss: 0.0792

 150/1149 [==>…] - ETA: 1s - loss: 0.1313Epoch 13/20

  10/1148 […] - ETA: 1s - loss: 0.0846
 460/1149 [==========>…] - ETA: 0s - loss: 0.1637
 900/1149 [======================>…] - ETA: 0s - loss: 0.1683
 720/1149 [=================>…] - ETA: 0s - loss: 0.1443
 330/1149 [=======>…] - ETA: 0s - loss: 0.1302
 210/1148 [====>…] - ETA: 0s - loss: 0.0769
 640/1149 [==============>…] - ETA: 0s - loss: 0.1526
1090/1149 [==========================>..] - ETA: 0s - loss: 0.1589
1149/1149 [=============================] - 1s 507us/step - loss: 0.1560

 890/1149 [======================>…] - ETA: 0s - loss: 0.1402Epoch 6/20

  10/1149 […] - ETA: 0s - loss: 0.0749Epoch 1/5

  20/1149 […] - ETA: 33s - loss: 0.3780
 510/1149 [===========>…] - ETA: 0s - loss: 0.1311
 380/1148 [========>…] - ETA: 0s - loss: 0.0763
 830/1149 [====================>…] - ETA: 0s - loss: 0.1477
1090/1149 [==========================>..] - ETA: 0s - loss: 0.1399
 230/1149 [=====>…] - ETA: 0s - loss: 0.1776
 280/1149 [======>…] - ETA: 1s - loss: 0.9799 Epoch 1/5

  20/1149 […] - ETA: 32s - loss: 0.3979
 710/1149 [=================>…] - ETA: 0s - loss: 0.1325
 570/1148 [============>…] - ETA: 0s - loss: 0.0758
1030/1149 [=========================>…] - ETA: 0s - loss: 0.1513
1149/1149 [=============================] - 1s 496us/step - loss: 0.1383
Epoch 12/20

  10/1149 […] - ETA: 0s - loss: 0.2716
1149/1149 [=============================] - 1s 467us/step - loss: 0.1442

 420/1149 [=========>…] - ETA: 0s - loss: 0.1624Epoch 6/20

  10/1149 […] - ETA: 0s - loss: 0.0989
 680/1149 [================>…] - ETA: 0s - loss: 1.1443
```

```
 930/1149 [=======================>…] - ETA: 0s - loss: 0.1413
 260/1149 [=====>…] - ETA: 2s - loss: 1.0667
 760/1148 [=================>…] - ETA: 0s - loss: 0.0784
 200/1149 [====>…] - ETA: 0s - loss: 0.1620
 610/1149 [=============>…] - ETA: 0s - loss: 0.1472
 200/1149 [====>…] - ETA: 0s - loss: 0.1290
1080/1149 [==========================>..] - ETA: 0s - loss: 1.1969
1149/1149 [==============================] - 0s 373us/step - loss: 0.1467
Epoch 12/20

  10/1149 […] - ETA: 0s - loss: 0.1401
 950/1148 [======================>…] - ETA: 0s - loss: 0.0771
1149/1149 [==============================] - 1s 655us/step - loss: 1.1736


 500/1149 [============>…] - ETA: 0s - loss: 1.1145Epoch 2/5

  20/1149 […] - ETA: 0s - loss: 1.4650
 410/1149 [=========>…] - ETA: 0s - loss: 0.1524
 810/1149 [====================>…] - ETA: 0s - loss: 0.1521
 360/1149 [========>…] - ETA: 0s - loss: 0.1465
 230/1149 [=====>…] - ETA: 0s - loss: 0.1440
1140/1148 [============================>.] - ETA: 0s - loss: 0.0791
1148/1148 [==============================] - 0s 280us/step - loss: 0.0787
Epoch 14/20

  10/1148 […] - ETA: 0s - loss: 0.0371
 360/1149 [========>…] - ETA: 0s - loss: 1.1435
 680/1149 [================>…] - ETA: 0s - loss: 1.1463Epoch 1/5

  20/1149 […] - ETA: 32s - loss: 2.3824
 610/1149 [=============>…] - ETA: 0s - loss: 0.1397
1000/1149 [========================>…] - ETA: 0s - loss: 0.1469
 540/1149 [============>…] - ETA: 0s - loss: 0.1396
 450/1149 [=========>…] - ETA: 0s - loss: 0.1339
 220/1148 [====>…] - ETA: 0s - loss: 0.0995
 700/1149 [================>…] - ETA: 0s - loss: 1.0526
 900/1149 [=====================>…] - ETA: 0s - loss: 1.1769
 830/1149 [===================>…] - ETA: 0s - loss: 0.1328
 140/1149 [==>…] - ETA: 4s - loss: 1.1239
1149/1149 [==============================] - 0s 254us/step - loss: 0.1448
Epoch 7/20

  10/1149 […] - ETA: 0s - loss: 0.1309
 760/1149 [=================>…] - ETA: 0s - loss: 0.1386
 670/1149 [================>…] - ETA: 0s - loss: 0.1375
1149/1149 [==============================] - 1s 733us/step - loss: 1.1333
Epoch 2/5
```

```
   20/1149 […] - ETA: 0s - loss: 0.5492
  420/1148 [=========>…] - ETA: 0s - loss: 0.0876
 1000/1149 [=========================>…] - ETA: 0s - loss: 1.0535
  260/1149 [=====>…] - ETA: 2s - loss: 1.0949
 1060/1149 [==========================>…] - ETA: 0s - loss: 0.1321
  220/1149 [====>…] - ETA: 0s - loss: 0.1144
 1149/1149 [==============================] - 0s 158us/step - loss: 1.0871
Epoch 3/5

   20/1149 […] - ETA: 0s - loss: 0.7263
 1149/1149 [==============================] - 0s 251us/step - loss: 0.1377

  970/1149 [========================>…] - ETA: 0s - loss: 0.1402Epoch 13/20

   10/1149 […] - ETA: 0s - loss: 0.1091
  830/1149 [====================>…] - ETA: 0s - loss: 0.1386
  340/1149 [=======>…] - ETA: 0s - loss: 0.9120
  610/1148 [=============>…] - ETA: 0s - loss: 0.0855
  440/1149 [=========>…] - ETA: 1s - loss: 1.2184
  410/1149 [=========>…] - ETA: 0s - loss: 0.1214
 1149/1149 [==============================] - 0s 265us/step - loss: 0.1336
Epoch 7/20

   10/1149 […] - ETA: 0s - loss: 0.0985
  360/1149 [========>…] - ETA: 0s - loss: 1.0195
  170/1149 [===>…] - ETA: 0s - loss: 0.1575
 1010/1149 [=========================>…] - ETA: 0s - loss: 0.1366
  700/1149 [=================>…] - ETA: 0s - loss: 1.0640
  800/1148 [===================>…] - ETA: 0s - loss: 0.0823
  660/1149 [================>…] - ETA: 0s - loss: 1.1456
  630/1149 [==============>…] - ETA: 0s - loss: 0.1308
  210/1149 [====>…] - ETA: 0s - loss: 0.1447
  660/1149 [================>…] - ETA: 0s - loss: 0.9022
 1149/1149 [==============================] - 0s 262us/step - loss: 0.1410

  360/1149 [========>…] - ETA: 0s - loss: 0.1589Epoch 13/20

   10/1149 […] - ETA: 0s - loss: 0.1123
 1020/1149 [=========================>…] - ETA: 0s - loss: 1.1133
 1030/1148 [=========================>…] - ETA: 0s - loss: 0.0794
  800/1149 [==================>…] - ETA: 0s - loss: 1.0962
  830/1149 [====================>…] - ETA: 0s - loss: 0.1324
 1149/1149 [==============================] - 0s 154us/step - loss: 1.0814
Epoch 3/5

   20/1149 […] - ETA: 0s - loss: 1.1006
  430/1149 [==========>…] - ETA: 0s - loss: 0.1448
 1148/1148 [==============================] - 0s 250us/step - loss: 0.0783
```

```
Epoch 15/20

  10/1148 [...] - ETA: 0s - loss: 0.0505
 940/1149 [======================>...] - ETA: 0s - loss: 0.8455
 570/1149 [=============>...] - ETA: 0s - loss: 0.1450
 130/1149 [==>...] - ETA: 0s - loss: 0.1574
1149/1149 [==============================] - 0s 171us/step - loss: 0.7798


1020/1149 [=========================>...] - ETA: 0s - loss: 0.1280Epoch 4/5

  20/1149 [...] - ETA: 0s - loss: 0.5885
1020/1149 [=========================>...] - ETA: 0s - loss: 1.1005
 670/1149 [================>...] - ETA: 0s - loss: 0.1336
 240/1148 [=====>...] - ETA: 0s - loss: 0.0856
 400/1149 [=========>...] - ETA: 0s - loss: 0.9211
 290/1149 [======>...] - ETA: 0s - loss: 0.1474
 750/1149 [==================>...] - ETA: 0s - loss: 0.1391
1149/1149 [==============================] - 0s 250us/step - loss: 0.1389
Epoch 8/20

  10/1149 [...] - ETA: 0s - loss: 0.0685
1149/1149 [==============================] - 1s 816us/step - loss: 1.0932
Epoch 2/5

  20/1149 [...] - ETA: 0s - loss: 0.3828
 320/1149 [=======>...] - ETA: 0s - loss: 0.5068
 870/1149 [=====================>...] - ETA: 0s - loss: 0.1298
 460/1148 [==========>...] - ETA: 0s - loss: 0.0831
 700/1149 [=================>...] - ETA: 0s - loss: 0.8392
 950/1149 [=======================>...] - ETA: 0s - loss: 0.1349
 500/1149 [===========>...] - ETA: 0s - loss: 0.1583
 200/1149 [====>...] - ETA: 0s - loss: 0.1519
 220/1149 [====>...] - ETA: 0s - loss: 1.1616
 620/1149 [==============>...] - ETA: 0s - loss: 0.4220
1040/1149 [==========================>...] - ETA: 0s - loss: 0.1336
 680/1148 [================>...] - ETA: 0s - loss: 0.0798
1040/1149 [==========================>...] - ETA: 0s - loss: 0.8832
 730/1149 [=================>...] - ETA: 0s - loss: 0.1480
1130/1149 [=============================>.] - ETA: 0s - loss: 0.1357
1149/1149 [==============================] - 0s 277us/step - loss: 0.1359


 380/1149 [=======>...] - ETA: 0s - loss: 0.1391Epoch 14/20

  10/1149 [...] - ETA: 0s - loss: 0.0569
1149/1149 [==============================] - 0s 158us/step - loss: 0.8783
Epoch 4/5

  20/1149 [...] - ETA: 0s - loss: 1.5383
```

156

```
1149/1149 [==============================] - 0s 250us/step - loss: 0.1295
Epoch 8/20

  10/1149 […] - ETA: 0s - loss: 0.1223
 400/1149 [========>…] - ETA: 0s - loss: 0.9544
 920/1149 [=====================>…] - ETA: 0s - loss: 0.3954
 880/1148 [====================>…] - ETA: 0s - loss: 0.0786
 910/1149 [=====================>…] - ETA: 0s - loss: 0.1392
 550/1149 [============>…] - ETA: 0s - loss: 0.1325
 160/1149 [===>…] - ETA: 0s - loss: 0.1381
 220/1149 [====>…] - ETA: 0s - loss: 0.6331
 230/1149 [=====>…] - ETA: 0s - loss: 0.0876
1149/1149 [==============================] - 0s 171us/step - loss: 0.3722
Epoch 5/5

  20/1149 […] - ETA: 0s - loss: 0.2584
 760/1149 [=================>…] - ETA: 0s - loss: 1.0713
1060/1148 [==========================>…] - ETA: 0s - loss: 0.0770
1050/1149 [==========================>…] - ETA: 0s - loss: 0.1394
 730/1149 [=================>…] - ETA: 0s - loss: 0.1247
 330/1149 [=======>…] - ETA: 0s - loss: 0.1348
1149/1149 [==============================] - 0s 179us/step - loss: 1.0016


1148/1148 [==============================] - 0s 246us/step - loss: 0.0785


 420/1149 [========>…] - ETA: 0s - loss: 0.1003Epoch 16/20

  10/1148 […] - ETA: 0s - loss: 0.0234
 320/1149 [=======>…] - ETA: 0s - loss: 0.5929Epoch 3/5

  20/1149 […] - ETA: 0s - loss: 0.4862
 320/1149 [=======>…] - ETA: 0s - loss: 0.1777
1149/1149 [==============================] - 0s 302us/step - loss: 0.1374
Epoch 14/20

  10/1149 […] - ETA: 0s - loss: 0.0260
 920/1149 [=====================>…] - ETA: 0s - loss: 0.1272
 520/1149 [===========>…] - ETA: 0s - loss: 0.1333
 200/1148 [====>…] - ETA: 0s - loss: 0.0696
 600/1149 [=============>…] - ETA: 0s - loss: 0.6041
 590/1149 [=============>…] - ETA: 0s - loss: 0.1202
 660/1149 [================>…] - ETA: 0s - loss: 0.1766
 420/1149 [========>…] - ETA: 0s - loss: 0.8444
 190/1149 [===>…] - ETA: 0s - loss: 0.1010
 700/1149 [================>…] - ETA: 0s - loss: 0.1392
1060/1149 [==========================>…] - ETA: 0s - loss: 0.1361
 350/1148 [=======>…] - ETA: 0s - loss: 0.0685
1100/1149 [===========================>..] - ETA: 0s - loss: 0.5653
```

```
 730/1149 [==================>…] - ETA: 0s - loss: 0.1213
 940/1149 [=======================>…] - ETA: 0s - loss: 0.1826
 720/1149 [=================>…] - ETA: 0s - loss: 0.7322
1149/1149 [==============================] - 0s 193us/step - loss: 0.5549
Epoch 5/5

  20/1149 […] - ETA: 0s - loss: 0.6765
 340/1149 [=======>…] - ETA: 0s - loss: 0.1212
1149/1149 [==============================] - 0s 305us/step - loss: 0.1353
Epoch 9/20

  10/1149 […] - ETA: 0s - loss: 0.0381
1149/1149 [==============================] - 0s 164us/step - loss: 0.1797

 900/1149 [======================>…] - ETA: 0s - loss: 0.1365
 500/1148 [============>…] - ETA: 0s - loss: 0.0692
 860/1149 [====================>…] - ETA: 0s - loss: 0.1236
1060/1149 [==========================>…] - ETA: 0s - loss: 0.7134
 420/1149 [=========>…] - ETA: 0s - loss: 0.3311
 510/1149 [============>…] - ETA: 0s - loss: 0.1144
1149/1149 [==============================] - 0s 155us/step - loss: 0.6929
Epoch 4/5

  20/1149 […] - ETA: 0s - loss: 0.7204
 220/1149 [====>…] - ETA: 0s - loss: 0.1100
1030/1149 [=========================>…] - ETA: 0s - loss: 0.1362
 720/1148 [=================>…] - ETA: 0s - loss: 0.0732
1070/1149 [==========================>…] - ETA: 0s - loss: 0.1268
 620/1149 [==============>…] - ETA: 0s - loss: 0.3008
 660/1149 [================>…] - ETA: 0s - loss: 0.1174
 480/1149 [==========>…] - ETA: 0s - loss: 0.4846
1149/1149 [==============================] - 0s 293us/step - loss: 0.1257
Epoch 9/20

  10/1149 […] - ETA: 0s - loss: 0.1828
1149/1149 [==============================] - 0s 304us/step - loss: 0.1352

 450/1149 [==========>…] - ETA: 0s - loss: 0.1078Epoch 15/20

  10/1149 […] - ETA: 0s - loss: 0.3447
 890/1148 [=====================>…] - ETA: 0s - loss: 0.0735
 960/1149 [=======================>…] - ETA: 0s - loss: 0.3177
 830/1149 [====================>…] - ETA: 0s - loss: 0.1269
 880/1149 [=====================>…] - ETA: 0s - loss: 0.4205
 210/1149 [====>…] - ETA: 0s - loss: 0.1353
 190/1149 [===>…] - ETA: 0s - loss: 0.1219
 640/1149 [===============>…] - ETA: 0s - loss: 0.1039
1149/1149 [==============================] - 0s 161us/step - loss: 0.3048
```

```
1060/1148 [===========================>…] - ETA: 0s - loss: 0.0778
1149/1149 [==============================] - 0s 126us/step - loss: 0.4093
Epoch 5/5

  20/1149 […] - ETA: 0s - loss: 0.4026
1148/1148 [==============================] - 0s 287us/step - loss: 0.0782


1030/1149 [=========================>…] - ETA: 0s - loss: 0.1318Epoch 17/20

  10/1148 […] - ETA: 0s - loss: 0.0196
 400/1149 [=========>…] - ETA: 0s - loss: 0.1239
 400/1149 [=========>…] - ETA: 0s - loss: 0.1170
 810/1149 [===================>…] - ETA: 0s - loss: 0.1101
1149/1149 [==============================] - 0s 295us/step - loss: 0.1333
Epoch 15/20


  10/1149 […] - ETA: 0s - loss: 0.2010
 460/1149 [===========>…] - ETA: 0s - loss: 0.3349
 200/1148 [====>…] - ETA: 0s - loss: 0.0741
 580/1149 [==============>…] - ETA: 0s - loss: 0.1324
 590/1149 [==============>…] - ETA: 0s - loss: 0.1346
 990/1149 [=========================>…] - ETA: 0s - loss: 0.1241
 220/1149 [====>…] - ETA: 0s - loss: 0.1196
 740/1149 [==================>…] - ETA: 0s - loss: 0.3505
 380/1148 [========>…] - ETA: 0s - loss: 0.0829
1149/1149 [==============================] - 0s 266us/step - loss: 0.1330


 770/1149 [==================>…] - ETA: 0s - loss: 0.1209Epoch 10/20


  10/1149 […] - ETA: 0s - loss: 0.1147
 770/1149 [==================>…] - ETA: 0s - loss: 0.1329
 410/1149 [=========>…] - ETA: 0s - loss: 0.1258
 960/1149 [========================>…] - ETA: 0s - loss: 0.3231
 570/1148 [=============>…] - ETA: 0s - loss: 0.0739
 210/1149 [====>…] - ETA: 0s - loss: 0.1390
 980/1149 [========================>…] - ETA: 0s - loss: 0.1288
 950/1149 [=======================>…] - ETA: 0s - loss: 0.1308
 580/1149 [==============>…] - ETA: 0s - loss: 0.1361
1149/1149 [==============================] - 0s 173us/step - loss: 0.3098


 750/1148 [==================>…] - ETA: 0s - loss: 0.0727
1140/1149 [============================>.] - ETA: 0s - loss: 0.1225
 380/1149 [========>…] - ETA: 0s - loss: 0.1575
1149/1149 [==============================] - 0s 272us/step - loss: 0.1333
Epoch 16/20

  10/1149 […] - ETA: 0s - loss: 0.1685
```

```
1149/1149 [==============================] - 0s 277us/step - loss: 0.1228
Epoch 10/20

  10/1149 […] - ETA: 0s - loss: 0.2485
 760/1149 [=================>…] - ETA: 0s - loss: 0.1361
 940/1148 [=======================>…] - ETA: 0s - loss: 0.0745
 570/1149 [============>…] - ETA: 0s - loss: 0.1369
 170/1149 [===>…] - ETA: 0s - loss: 0.1391
 180/1149 [===>…] - ETA: 0s - loss: 0.1136
 980/1149 [========================>…] - ETA: 0s - loss: 0.1328
1110/1148 [============================>.] - ETA: 0s - loss: 0.0780
 730/1149 [==================>…] - ETA: 0s - loss: 0.1390
1148/1148 [==============================] - 0s 279us/step - loss: 0.0779

 340/1149 [=======>…] - ETA: 0s - loss: 0.1303Epoch 18/20

  10/1148 […] - ETA: 0s - loss: 0.0314
 330/1149 [=======>…] - ETA: 0s - loss: 0.1038
1149/1149 [==============================] - 0s 270us/step - loss: 0.1308
Epoch 16/20

  10/1149 […] - ETA: 0s - loss: 0.0917
 840/1149 [=====================>…] - ETA: 0s - loss: 0.1348
 530/1149 [===========>…] - ETA: 0s - loss: 0.1266
 510/1149 [===========>…] - ETA: 0s - loss: 0.1003
 180/1148 [===>…] - ETA: 0s - loss: 0.0795
 160/1149 [===>…] - ETA: 0s - loss: 0.1043
 970/1149 [=======================>…] - ETA: 0s - loss: 0.1339
 740/1149 [==================>…] - ETA: 0s - loss: 0.1262
 350/1148 [========>…] - ETA: 0s - loss: 0.0870
 690/1149 [=================>…] - ETA: 0s - loss: 0.1243
 330/1149 [=======>…] - ETA: 0s - loss: 0.1260
1110/1149 [===========================>..] - ETA: 0s - loss: 0.1316
 910/1149 [=====================>…] - ETA: 0s - loss: 0.1238
 520/1148 [===========>…] - ETA: 0s - loss: 0.0835
 870/1149 [====================>…] - ETA: 0s - loss: 0.1239
1149/1149 [==============================] - 0s 327us/step - loss: 0.1307
Epoch 11/20

  10/1149 […] - ETA: 0s - loss: 0.1980
 500/1149 [===========>…] - ETA: 0s - loss: 0.1214
1090/1149 [===========================>..] - ETA: 0s - loss: 0.1324
 700/1148 [=================>…] - ETA: 0s - loss: 0.0855
1070/1149 [==========================>…] - ETA: 0s - loss: 0.1243
 220/1149 [====>…] - ETA: 0s - loss: 0.1118
1149/1149 [==============================] - 0s 284us/step - loss: 0.1328
Epoch 17/20
```

160

```
  10/1149 […] - ETA: 0s - loss: 0.2768
 710/1149 [=================>…] - ETA: 0s - loss: 0.1169
1149/1149 [==============================] - 0s 291us/step - loss: 0.1204
Epoch 11/20

  10/1149 […] - ETA: 0s - loss: 0.1465
 880/1148 [=====================>…] - ETA: 0s - loss: 0.0810
 400/1149 [=========>…] - ETA: 0s - loss: 0.1334
 160/1149 [===>…] - ETA: 0s - loss: 0.1533
 890/1149 [======================>…] - ETA: 0s - loss: 0.1219
 200/1149 [====>…] - ETA: 0s - loss: 0.0937Epoch 1/10

  20/1148 […] - ETA: 24s - loss: 0.5379
1070/1148 [==========================>…] - ETA: 0s - loss: 0.0781
 610/1149 [==============>…] - ETA: 0s - loss: 0.1270
 340/1149 [=======>…] - ETA: 0s - loss: 0.1500
1070/1149 [==========================>…] - ETA: 0s - loss: 0.1311
 390/1149 [=========>…] - ETA: 0s - loss: 0.0958
1148/1148 [==============================] - 0s 298us/step - loss: 0.0777

 300/1148 [======>…] - ETA: 1s - loss: 0.3660 Epoch 19/20

  10/1148 […] - ETA: 0s - loss: 0.1307
1149/1149 [==============================] - 0s 294us/step - loss: 0.1295
Epoch 17/20

  10/1149 […] - ETA: 0s - loss: 0.1214Epoch 1/10

  20/1149 […] - ETA: 25s - loss: 1.0743
 820/1149 [====================>…] - ETA: 0s - loss: 0.1259
 500/1149 [===========>…] - ETA: 0s - loss: 0.1416
 620/1149 [==============>…] - ETA: 0s - loss: 0.0988
 580/1148 [==============>…] - ETA: 0s - loss: 0.3728
 180/1148 [===>…] - ETA: 0s - loss: 0.0766
 200/1149 [====>…] - ETA: 0s - loss: 0.1165
 180/1149 [===>…] - ETA: 2s - loss: 1.4724
1020/1149 [=========================>…] - ETA: 0s - loss: 0.1286
 700/1149 [=================>…] - ETA: 0s - loss: 0.1399
 800/1149 [===================>…] - ETA: 0s - loss: 0.1123
 960/1148 [=======================>…] - ETA: 0s - loss: 0.3596
 380/1148 [=======>…] - ETA: 0s - loss: 0.0767
1149/1149 [==============================] - 0s 256us/step - loss: 0.1289
Epoch 12/20

  10/1149 […] - ETA: 0s - loss: 0.1322
 400/1149 [=========>…] - ETA: 0s - loss: 0.1377
1148/1148 [==============================] - 1s 544us/step - loss: 0.3613
Epoch 2/10
```

```
  20/1148 […] – ETA: 0s – loss: 0.2551
 400/1149 [=========>…] – ETA: 1s – loss: 1.2736
 910/1149 [======================>…] – ETA: 0s – loss: 0.1304
 960/1149 [=======================>…] – ETA: 0s – loss: 0.1242
 570/1148 [=============>…] – ETA: 0s – loss: 0.0771
 230/1149 [=====>…] – ETA: 0s – loss: 0.1565
 600/1149 [==============>…] – ETA: 0s – loss: 0.1331
 320/1148 [=======>…] – ETA: 0s – loss: 0.3481
 520/1149 [============>…] – ETA: 0s – loss: 1.2775
1100/1149 [==========================>..] – ETA: 0s – loss: 0.1326
1149/1149 [=============================] – 0s 265us/step – loss: 0.1191
Epoch 12/20

  10/1149 […] – ETA: 0s – loss: 0.1082
 780/1148 [===================>…] – ETA: 0s – loss: 0.0757
1149/1149 [=============================] – 0s 285us/step – loss: 0.1322
Epoch 18/20

  10/1149 […] – ETA: 0s – loss: 0.0923
 440/1149 [==========>…] – ETA: 0s – loss: 0.1415
 780/1149 [===================>…] – ETA: 0s – loss: 0.1305
 680/1148 [================>…] – ETA: 0s – loss: 0.3085
 200/1149 [====>…] – ETA: 0s – loss: 0.1354
 780/1149 [===================>…] – ETA: 0s – loss: 1.1607
1010/1148 [========================>…] – ETA: 0s – loss: 0.0779
 210/1149 [====>…] – ETA: 0s – loss: 0.1101
 620/1149 [==============>…] – ETA: 0s – loss: 0.1356
 970/1149 [========================>…] – ETA: 0s – loss: 0.1315
 980/1148 [========================>…] – ETA: 0s – loss: 0.3045
1148/1148 [=============================] – 0s 262us/step – loss: 0.0777
Epoch 20/20

  10/1148 […] – ETA: 0s – loss: 0.1405
 420/1149 [=========>…] – ETA: 0s – loss: 0.1370
1020/1149 [========================>…] – ETA: 0s – loss: 1.2094
 390/1149 [=========>…] – ETA: 0s – loss: 0.1246
1149/1149 [=============================] – 0s 268us/step – loss: 0.1283

 810/1149 [===================>…] – ETA: 0s – loss: 0.1271Epoch 18/20

  10/1149 […] – ETA: 0s – loss: 0.0665
1148/1148 [=============================] – 0s 176us/step – loss: 0.2930

1149/1149 [=============================] – 1s 653us/step – loss: 1.1887
Epoch 3/10

  20/1148 […] – ETA: 0s – loss: 0.3452Epoch 2/10
```

```
  20/1149 […] - ETA: 0s - loss: 1.5014
 620/1149 [==============>…] - ETA: 0s - loss: 0.1245
 200/1148 [====>…] - ETA: 0s - loss: 0.0893
 580/1149 [=============>…] - ETA: 0s - loss: 0.1189
1000/1149 [========================>…] - ETA: 0s - loss: 0.1336
 220/1149 [====>…] - ETA: 0s - loss: 0.1142
 340/1148 [=======>…] - ETA: 0s - loss: 0.2010
 260/1149 [=====>…] - ETA: 0s - loss: 1.2412
 390/1148 [========>…] - ETA: 0s - loss: 0.0803
 820/1149 [===================>…] - ETA: 0s - loss: 0.1185
1149/1149 [=============================] - 0s 258us/step - loss: 0.1273
Epoch 13/20

  10/1149 […] - ETA: 0s - loss: 0.3024
 760/1149 [=================>…] - ETA: 0s - loss: 0.1252
 420/1149 [=========>…] - ETA: 0s - loss: 0.1122
 640/1148 [==============>…] - ETA: 0s - loss: 0.1995
 500/1149 [===========>…] - ETA: 0s - loss: 1.1268
 560/1148 [=============>…] - ETA: 0s - loss: 0.0745
1030/1149 [========================>…] - ETA: 0s - loss: 0.1136
 200/1149 [====>…] - ETA: 0s - loss: 0.1329
 930/1149 [======================>…] - ETA: 0s - loss: 0.1346
 610/1149 [=============>…] - ETA: 0s - loss: 0.1210
 960/1148 [========================>…] - ETA: 0s - loss: 0.1869
1149/1149 [=============================] - 0s 260us/step - loss: 0.1161
Epoch 13/20

  10/1149 […] - ETA: 0s - loss: 0.1531
 720/1149 [=================>…] - ETA: 0s - loss: 1.1719
 780/1148 [==================>…] - ETA: 0s - loss: 0.0743
1148/1148 [=============================] - 0s 160us/step - loss: 0.1835

 350/1149 [========>…] - ETA: 0s - loss: 0.1195Epoch 4/10

  20/1148 […] - ETA: 0s - loss: 0.1494
1130/1149 [============================>.] - ETA: 0s - loss: 0.1312
 820/1149 [===================>…] - ETA: 0s - loss: 0.1211
1149/1149 [=============================] - 0s 282us/step - loss: 0.1307
Epoch 19/20

  10/1149 […] - ETA: 0s - loss: 0.2043
 220/1149 [====>…] - ETA: 0s - loss: 0.1397
 960/1149 [========================>…] - ETA: 0s - loss: 1.1397
 960/1148 [========================>…] - ETA: 0s - loss: 0.0777
 380/1148 [========>…] - ETA: 0s - loss: 0.1543
 440/1149 [==========>…] - ETA: 0s - loss: 0.1130
1149/1149 [=============================] - 0s 215us/step - loss: 1.1492
```

```
Epoch 3/10

  20/1149 [...] - ETA: 0s - loss: 0.6495
1030/1149 [=========================>...] - ETA: 0s - loss: 0.1280
 200/1149 [====>...] - ETA: 0s - loss: 0.1076
 440/1149 [=========>...] - ETA: 0s - loss: 0.1295
1148/1148 [==============================] - 0s 271us/step - loss: 0.0776


1149/1149 [==============================] - 0s 253us/step - loss: 0.1276
Epoch 19/20

  10/1149 [...] - ETA: 0s - loss: 0.1628
 740/1148 [==================>...] - ETA: 0s - loss: 0.1408
 380/1149 [=======>...] - ETA: 0s - loss: 1.0445
 540/1149 [=============>...] - ETA: 0s - loss: 0.1264
 410/1149 [=========>...] - ETA: 0s - loss: 0.1237
 620/1149 [==============>...] - ETA: 0s - loss: 0.1225
 200/1149 [====>...] - ETA: 0s - loss: 0.1331
1080/1148 [===========================>..] - ETA: 0s - loss: 0.1335
 710/1149 [=================>...] - ETA: 0s - loss: 0.1196
 780/1149 [===================>...] - ETA: 0s - loss: 1.0718
1148/1148 [==============================] - 0s 147us/step - loss: 0.1337
Epoch 5/10

  20/1148 [...] - ETA: 0s - loss: 0.1401
 600/1149 [==============>...] - ETA: 0s - loss: 0.1266
 800/1149 [===================>...] - ETA: 0s - loss: 0.1209
 390/1149 [=========>...] - ETA: 0s - loss: 0.1095
1149/1149 [==============================] - 0s 124us/step - loss: 0.9821
Epoch 4/10

  20/1149 [...] - ETA: 0s - loss: 0.9159
 970/1149 [========================>...] - ETA: 0s - loss: 0.1190Epoch 1/10

  20/1149 [...] - ETA: 33s - loss: 1.0883
 300/1148 [======>...] - ETA: 0s - loss: 0.1255
 790/1149 [==================>...] - ETA: 0s - loss: 0.1258
1000/1149 [=========================>...] - ETA: 0s - loss: 0.1187
 580/1149 [==============>...] - ETA: 0s - loss: 0.1220
1149/1149 [==============================] - 0s 312us/step - loss: 0.1262
Epoch 14/20

  10/1149 [...] - ETA: 0s - loss: 0.1050
 500/1149 [============>...] - ETA: 0s - loss: 0.6208
 240/1149 [=====>...] - ETA: 2s - loss: 1.2554
 740/1148 [==================>...] - ETA: 0s - loss: 0.1220
 990/1149 [========================>...] - ETA: 0s - loss: 0.1311
1149/1149 [==============================] - 0s 262us/step - loss: 0.1153
```

```
Epoch 14/20

  10/1149 […] – ETA: 0s – loss: 0.0388
 760/1149 [==================>…] – ETA: 0s – loss: 0.1205
 200/1149 [====>…] – ETA: 0s – loss: 0.1137
 800/1149 [==================>…] – ETA: 0s – loss: 0.6693
1148/1148 [==============================] – 0s 125us/step – loss: 0.1226
Epoch 6/10

  20/1148 […] – ETA: 0s – loss: 0.0668
1149/1149 [==============================] – 0s 260us/step – loss: 0.1312
Epoch 20/20

  10/1149 […] – ETA: 0s – loss: 0.1339
 190/1149 [===>…] – ETA: 0s – loss: 0.0903
 330/1149 [=======>…] – ETA: 0s – loss: 0.1112
 900/1149 [=====================>…] – ETA: 0s – loss: 0.6868
 360/1149 [========>…] – ETA: 1s – loss: 1.3374
 280/1148 [======>…] – ETA: 0s – loss: 0.1223
 890/1149 [=====================>…] – ETA: 0s – loss: 0.1222
 110/1149 [=>…] – ETA: 0s – loss: 0.1413
 280/1149 [======>…] – ETA: 0s – loss: 0.0957
 390/1149 [=========>…] – ETA: 0s – loss: 0.1132
1000/1149 [========================>…] – ETA: 0s – loss: 0.6634
 960/1149 [========================>…] – ETA: 0s – loss: 0.1192
 420/1148 [=========>…] – ETA: 0s – loss: 0.1188
 150/1149 [==>…] – ETA: 0s – loss: 0.1292
 340/1149 [=======>…] – ETA: 0s – loss: 0.1132
 460/1149 [==========>…] – ETA: 0s – loss: 0.1117
 420/1149 [=========>…] – ETA: 1s – loss: 1.3498
1140/1149 [===========================>.] – ETA: 0s – loss: 0.6617
1149/1149 [==============================] – 0s 234us/step – loss: 0.6630

1030/1149 [========================>…] – ETA: 0s – loss: 0.1208
 600/1148 [==============>…] – ETA: 0s – loss: 0.1123Epoch 5/10

  20/1149 […] – ETA: 0s – loss: 0.3811
 230/1149 [=====>…] – ETA: 0s – loss: 0.1203
 430/1149 [=========>…] – ETA: 0s – loss: 0.1088
 570/1149 [=============>…] – ETA: 0s – loss: 0.1108
 540/1149 [=============>…] – ETA: 1s – loss: 1.2851
1149/1149 [==============================] – 0s 374us/step – loss: 0.1242

 880/1148 [====================>…] – ETA: 0s – loss: 0.1172Epoch 20/20

  10/1149 […] – ETA: 0s – loss: 0.1921
 380/1149 [========>…] – ETA: 0s – loss: 0.3501
 380/1149 [========>…] – ETA: 0s – loss: 0.1292
```

```
 600/1149 [==============>…] - ETA: 0s - loss: 0.1158
 770/1149 [===================>…] - ETA: 0s - loss: 0.1041
1148/1148 [==============================] - 0s 230us/step - loss: 0.1155
Epoch 7/10

  20/1148 […] - ETA: 0s - loss: 0.1101
 200/1149 [====>…] - ETA: 0s - loss: 0.1290
 780/1149 [===================>…] - ETA: 0s - loss: 1.2103
 800/1149 [===================>…] - ETA: 0s - loss: 0.3524
 580/1149 [=============>…] - ETA: 0s - loss: 0.1278
 790/1149 [===================>…] - ETA: 0s - loss: 0.1185
 970/1149 [=======================>…] - ETA: 0s - loss: 0.1171
 370/1149 [========>…] - ETA: 0s - loss: 0.1192
 320/1148 [=======>…] - ETA: 0s - loss: 0.1280
1149/1149 [==============================] - 0s 138us/step - loss: 0.3122
Epoch 6/10

  20/1149 […] - ETA: 0s - loss: 0.1173
 920/1149 [=======================>…] - ETA: 0s - loss: 1.2301
 780/1149 [===================>…] - ETA: 0s - loss: 0.1358
1000/1149 [========================>…] - ETA: 0s - loss: 0.1143
1149/1149 [==============================] - 0s 358us/step - loss: 0.1253

1149/1149 [==============================] - 1s 915us/step - loss: 1.1766
Epoch 15/20

  10/1149 […] - ETA: 0s - loss: 0.1253Epoch 2/10

  20/1149 […] - ETA: 0s - loss: 0.7996
 550/1149 [=============>…] - ETA: 0s - loss: 0.1366
 700/1148 [=================>…] - ETA: 0s - loss: 0.1159
 400/1149 [=========>…] - ETA: 0s - loss: 0.1843
1149/1149 [==============================] - 0s 360us/step - loss: 0.1132
Epoch 15/20

  10/1149 […] - ETA: 0s - loss: 0.1054
 960/1149 [========================>…] - ETA: 0s - loss: 0.1319
 500/1149 [============>…] - ETA: 0s - loss: 1.1897
 180/1149 [===>…] - ETA: 0s - loss: 0.1113
 690/1149 [================>…] - ETA: 0s - loss: 0.1303
1060/1148 [===========================>…] - ETA: 0s - loss: 0.1106
 680/1149 [================>…] - ETA: 0s - loss: 0.1613
 180/1149 [===>…] - ETA: 0s - loss: 0.1028
1148/1148 [==============================] - 0s 156us/step - loss: 0.1105

1120/1149 [===========================>.] - ETA: 0s - loss: 0.1306Epoch 8/10

  20/1148 […] - ETA: 0s - loss: 0.1066
```

166

```
1149/1149 [==============================] - 0s 392us/step - loss: 0.1305

 960/1149 [=========================>…] - ETA: 0s - loss: 1.1415
 350/1149 [========>…] - ETA: 0s - loss: 0.1058
 870/1149 [=====================>…] - ETA: 0s - loss: 0.1312
1040/1149 [===========================>…] - ETA: 0s - loss: 0.1546
 370/1149 [========>…] - ETA: 0s - loss: 0.1286
1149/1149 [==============================] - 0s 150us/step - loss: 0.1530

1149/1149 [==============================] - 0s 122us/step - loss: 1.1342

 360/1148 [========>…] - ETA: 0s - loss: 0.1079Epoch 7/10

  20/1149 […] - ETA: 0s - loss: 0.0419Epoch 3/10

  20/1149 […] - ETA: 0s - loss: 0.8429
 500/1149 [============>…] - ETA: 0s - loss: 0.1195
1010/1149 [==========================>…] - ETA: 0s - loss: 0.1268
 500/1149 [============>…] - ETA: 0s - loss: 0.1257
 380/1149 [========>…] - ETA: 0s - loss: 0.1618
 740/1148 [==================>…] - ETA: 0s - loss: 0.1088
 260/1149 [=====>…] - ETA: 0s - loss: 0.9517
1149/1149 [==============================] - 0s 300us/step - loss: 0.1246

 650/1149 [==============>…] - ETA: 0s - loss: 0.1189
 690/1149 [=================>…] - ETA: 0s - loss: 0.1194
 740/1149 [=================>…] - ETA: 0s - loss: 0.1501
1120/1148 [=============================>.] - ETA: 0s - loss: 0.1070
 440/1149 [=========>…] - ETA: 0s - loss: 1.0448
1148/1148 [==============================] - 0s 141us/step - loss: 0.1069
Epoch 9/10

  20/1148 […] - ETA: 0s - loss: 0.0822
 780/1149 [==================>…] - ETA: 0s - loss: 0.1137
 860/1149 [=====================>…] - ETA: 0s - loss: 0.1202
1080/1149 [===========================>..] - ETA: 0s - loss: 0.1305
 760/1149 [==================>…] - ETA: 0s - loss: 1.0271
 340/1148 [=======>…] - ETA: 0s - loss: 0.1003
1149/1149 [==============================] - 0s 150us/step - loss: 0.1283
Epoch 8/10

  20/1149 […] - ETA: 0s - loss: 0.1003
 950/1149 [======================>…] - ETA: 0s - loss: 0.1159
1000/1149 [========================>…] - ETA: 0s - loss: 0.1143
1020/1149 [========================>…] - ETA: 0s - loss: 0.9303
 600/1148 [==============>…] - ETA: 0s - loss: 0.0993
 340/1149 [=======>…] - ETA: 0s - loss: 0.1358
1110/1149 [===========================>..] - ETA: 0s - loss: 0.1272
```

```
1149/1149 [==============================] - 0s 199us/step - loss: 0.9634
Epoch 4/10

  20/1149 […] - ETA: 0s - loss: 0.3403
1149/1149 [==============================] - 0s 331us/step - loss: 0.1251
Epoch 16/20

  10/1149 […] - ETA: 0s - loss: 0.0422
1130/1149 [=============================>.] - ETA: 0s - loss: 0.1117
1149/1149 [==============================] - 0s 321us/step - loss: 0.1116
Epoch 16/20

  10/1149 […] - ETA: 0s - loss: 0.0779
 920/1148 [=======================>…] - ETA: 0s - loss: 0.1099
 680/1149 [================>…] - ETA: 0s - loss: 0.1290
 400/1149 [=========>…] - ETA: 0s - loss: 0.7334
 200/1149 [====>…] - ETA: 0s - loss: 0.0999
1148/1148 [==============================] - 0s 169us/step - loss: 0.1039
Epoch 10/10

  20/1148 […] - ETA: 0s - loss: 0.1308
 190/1149 [===>…] - ETA: 0s - loss: 0.0846
1040/1149 [==========================>…] - ETA: 0s - loss: 0.1262
 800/1149 [===================>…] - ETA: 0s - loss: 0.7263
 410/1149 [=========>…] - ETA: 0s - loss: 0.0995
1149/1149 [==============================] - 0s 153us/step - loss: 0.1239
Epoch 9/10

  20/1149 […] - ETA: 0s - loss: 0.1016
 400/1148 [=========>…] - ETA: 0s - loss: 0.1183
 390/1149 [=========>…] - ETA: 0s - loss: 0.0984
1000/1149 [=========================>…] - ETA: 0s - loss: 0.7325
 620/1149 [===============>…] - ETA: 0s - loss: 0.1127
 420/1149 [=========>…] - ETA: 0s - loss: 0.1292
 840/1148 [====================>…] - ETA: 0s - loss: 0.1052
 580/1149 [==============>…] - ETA: 0s - loss: 0.1026
1149/1149 [==============================] - 0s 173us/step - loss: 0.7119
Epoch 5/10

  20/1149 […] - ETA: 0s - loss: 0.4134
 830/1149 [====================>…] - ETA: 0s - loss: 0.1117
1148/1148 [==============================] - 0s 126us/step - loss: 0.1015

 860/1149 [====================>…] - ETA: 0s - loss: 0.1129
 780/1149 [==================>…] - ETA: 0s - loss: 0.1036
 320/1149 [=======>…] - ETA: 0s - loss: 0.5841
 970/1149 [========================>…] - ETA: 0s - loss: 0.1280Epoch 1/10
```

```
  20/1149 […] - ETA: 25s - loss: 0.7273
1149/1149 [==============================] - 0s 142us/step - loss: 0.1226
Epoch 10/10

  20/1149 […] - ETA: 0s - loss: 0.0747
 910/1149 [======================>…] - ETA: 0s - loss: 0.1027
 760/1149 [==================>…] - ETA: 0s - loss: 0.5933
1130/1149 [=============================>.] - ETA: 0s - loss: 0.1240
 580/1149 [==============>…] - ETA: 0s - loss: 1.0797
1149/1149 [==============================] - 0s 284us/step - loss: 0.1233

 360/1149 [========>…] - ETA: 0s - loss: 0.1319
1080/1149 [===========================>..] - ETA: 0s - loss: 0.1044Epoch 17/20

  10/1149 […] - ETA: 0s - loss: 0.1769
1100/1149 [============================>..] - ETA: 0s - loss: 0.5322
1149/1149 [==============================] - 1s 465us/step - loss: 1.1294

1149/1149 [==============================] - 0s 296us/step - loss: 0.1102
Epoch 17/20

  10/1149 […] - ETA: 0s - loss: 0.6514
1149/1149 [==============================] - 0s 149us/step - loss: 0.5194
Epoch 6/10

  20/1149 […] - ETA: 0s - loss: 0.2269Epoch 2/10

  20/1149 […] - ETA: 0s - loss: 0.5103
 640/1149 [===============>…] - ETA: 0s - loss: 0.1273
 150/1149 [==>…] - ETA: 0s - loss: 0.1089
 210/1149 [====>…] - ETA: 0s - loss: 0.1422
 280/1149 [======>…] - ETA: 0s - loss: 1.1300
 380/1149 [========>…] - ETA: 0s - loss: 0.4075
 340/1149 [=======>…] - ETA: 0s - loss: 0.1076
1040/1149 [=========================>…] - ETA: 0s - loss: 0.1228
1149/1149 [==============================] - 0s 154us/step - loss: 0.1203

 390/1149 [=========>…] - ETA: 0s - loss: 0.1161
 560/1149 [=============>…] - ETA: 0s - loss: 1.0471
 640/1149 [===============>…] - ETA: 0s - loss: 0.4212
 550/1149 [=============>…] - ETA: 0s - loss: 0.1017
 550/1149 [=============>…] - ETA: 0s - loss: 0.1094
 980/1149 [=======================>…] - ETA: 0s - loss: 0.3837
 800/1149 [===================>…] - ETA: 0s - loss: 1.0120
 690/1149 [=================>…] - ETA: 0s - loss: 0.1105
1149/1149 [==============================] - 0s 169us/step - loss: 0.3654
Epoch 7/10
```

```
  20/1149 […] - ETA: 0s - loss: 0.2654
 670/1149 [================>…] - ETA: 0s - loss: 0.1109
1020/1149 [=========================>…] - ETA: 0s - loss: 1.0836
 830/1149 [====================>…] - ETA: 0s - loss: 0.1275
1149/1149 [==============================] - 0s 216us/step - loss: 1.0627
Epoch 1/15

  20/1148 […] - ETA: 23s - loss: 0.3593
 260/1149 [=====>…] - ETA: 0s - loss: 0.2714Epoch 3/10

  20/1149 […] - ETA: 0s - loss: 0.9295
 810/1149 [====================>…] - ETA: 0s - loss: 0.1070
1000/1149 [=========================>…] - ETA: 0s - loss: 0.1266
 520/1148 [============>…] - ETA: 0s - loss: 0.3603
 580/1149 [=============>…] - ETA: 0s - loss: 0.2633Epoch 1/10

  20/1149 […] - ETA: 28s - loss: 2.3669
 320/1149 [=======>…] - ETA: 0s - loss: 0.9396
 960/1149 [========================>…] - ETA: 0s - loss: 0.1037
1149/1149 [==============================] - 0s 314us/step - loss: 0.1242
Epoch 18/20

  10/1149 […] - ETA: 0s - loss: 0.0870
 920/1149 [=======================>…] - ETA: 0s - loss: 0.2821
 120/1149 [==>…] - ETA: 4s - loss: 1.3632
1040/1148 [==========================>…] - ETA: 0s - loss: 0.3636
1120/1149 [=============================>.] - ETA: 0s - loss: 0.1102
 540/1149 [=============>…] - ETA: 0s - loss: 0.8494
1149/1149 [==============================] - 0s 321us/step - loss: 0.1098
Epoch 18/20

  10/1149 […] - ETA: 0s - loss: 0.0960
1148/1148 [==============================] - 1s 478us/step - loss: 0.3624


1149/1149 [==============================] - 0s 160us/step - loss: 0.2609
Epoch 8/10

  20/1149 […] - ETA: 0s - loss: 0.1257
 160/1149 [===>…] - ETA: 0s - loss: 0.1098Epoch 2/15

  20/1148 […] - ETA: 0s - loss: 0.2506
 440/1149 [=========>…] - ETA: 0s - loss: 1.2414
 920/1149 [======================>…] - ETA: 0s - loss: 0.8675
 230/1149 [=====>…] - ETA: 0s - loss: 0.1131
 400/1149 [========>…] - ETA: 0s - loss: 0.1973
 280/1149 [=====>…] - ETA: 0s - loss: 0.1115
 380/1148 [========>…] - ETA: 0s - loss: 0.3451
1149/1149 [==============================] - 0s 174us/step - loss: 0.8168
```

```
Epoch 4/10

  20/1149 […] - ETA: 0s - loss: 0.3581
 780/1149 [==================>…] - ETA: 0s - loss: 1.1364
 440/1149 [=========>…] - ETA: 0s - loss: 0.1057
 820/1149 [====================>…] - ETA: 0s - loss: 0.1998
 440/1149 [=========>…] - ETA: 0s - loss: 0.1038
 660/1148 [===============>…] - ETA: 0s - loss: 0.3307
 400/1149 [========>…] - ETA: 0s - loss: 0.5756
1040/1149 [=========================>…] - ETA: 0s - loss: 1.0807
 630/1149 [==============>…] - ETA: 0s - loss: 0.1141
1149/1149 [==============================] - 0s 131us/step - loss: 0.1990
Epoch 9/10

  20/1149 […] - ETA: 0s - loss: 0.0882
1149/1149 [==============================] - 1s 645us/step - loss: 1.0883


 650/1149 [=============>…] - ETA: 0s - loss: 0.1012Epoch 2/10

  20/1149 […] - ETA: 0s - loss: 1.1520
 880/1148 [====================>…] - ETA: 0s - loss: 0.3230
 760/1149 [==================>…] - ETA: 0s - loss: 0.5030
 820/1149 [====================>…] - ETA: 0s - loss: 0.1141
 420/1149 [========>…] - ETA: 0s - loss: 0.1958
 850/1149 [====================>…] - ETA: 0s - loss: 0.1058
1040/1148 [=========================>…] - ETA: 0s - loss: 0.3195
 260/1149 [=====>…] - ETA: 0s - loss: 1.2321
1149/1149 [==============================] - 0s 137us/step - loss: 0.4363
Epoch 5/10

  20/1149 […] - ETA: 0s - loss: 0.3562
1148/1148 [==============================] - 0s 209us/step - loss: 0.3126
Epoch 3/15

  20/1148 […] - ETA: 0s - loss: 0.2843
1020/1149 [========================>…] - ETA: 0s - loss: 0.1095
 760/1149 [=================>…] - ETA: 0s - loss: 0.1695
1020/1149 [========================>…] - ETA: 0s - loss: 0.1183
1149/1149 [==============================] - 0s 252us/step - loss: 0.1086


 360/1149 [========>…] - ETA: 0s - loss: 0.2583Epoch 19/20

  10/1149 […] - ETA: 0s - loss: 0.0442
 560/1149 [=============>…] - ETA: 0s - loss: 1.0431
 400/1148 [========>…] - ETA: 0s - loss: 0.2608
1149/1149 [==============================] - 0s 306us/step - loss: 0.1224
Epoch 19/20
```

```
  10/1149 […] - ETA: 0s - loss: 0.1059
1120/1149 [============================>.] - ETA: 0s - loss: 0.1681
1149/1149 [==============================] - 0s 141us/step - loss: 0.1671
Epoch 10/10

  20/1149 […] - ETA: 0s - loss: 0.1516
 700/1149 [=================>…] - ETA: 0s - loss: 0.2255
 200/1149 [====>…] - ETA: 0s - loss: 0.0952
 780/1149 [==================>…] - ETA: 0s - loss: 1.0183
 800/1148 [==================>…] - ETA: 0s - loss: 0.2617
 200/1149 [====>…] - ETA: 0s - loss: 0.1094
 380/1149 [========>…] - ETA: 0s - loss: 0.1401
1040/1149 [==========================>…] - ETA: 0s - loss: 0.2247
1040/1149 [==========================>…] - ETA: 0s - loss: 1.0091
 350/1149 [========>…] - ETA: 0s - loss: 0.0910
1149/1149 [==============================] - 0s 150us/step - loss: 0.2168

1120/1148 [===========================>.] - ETA: 0s - loss: 0.2436Epoch 6/10

  20/1149 […] - ETA: 0s - loss: 0.2157
1149/1149 [==============================] - 0s 214us/step - loss: 0.9911

1148/1148 [==============================] - 0s 145us/step - loss: 0.2420

 370/1149 [=======>…] - ETA: 0s - loss: 0.1233Epoch 3/10

  20/1149 […] - ETA: 0s - loss: 0.5318Epoch 4/15

  20/1148 […] - ETA: 0s - loss: 0.2099
 780/1149 [==================>…] - ETA: 0s - loss: 0.1462
 480/1149 [==========>…] - ETA: 0s - loss: 0.1056Epoch 1/15

  20/1149 […] - ETA: 21s - loss: 0.6563
 380/1149 [=======>…] - ETA: 0s - loss: 0.1983
 560/1149 [============>…] - ETA: 0s - loss: 0.1213
 460/1149 [==========>…] - ETA: 0s - loss: 0.7477
 380/1148 [=======>…] - ETA: 0s - loss: 0.1997
1149/1149 [==============================] - 0s 138us/step - loss: 0.1495

 630/1149 [==============>…] - ETA: 0s - loss: 0.1032
 740/1149 [=================>…] - ETA: 0s - loss: 0.1933
 220/1149 [====>…] - ETA: 1s - loss: 1.1399
 760/1149 [=================>…] - ETA: 0s - loss: 0.1164
 800/1148 [==================>…] - ETA: 0s - loss: 0.1771
 940/1149 [=====================>…] - ETA: 0s - loss: 0.7032
1149/1149 [==============================] - 0s 117us/step - loss: 0.6812

 850/1149 [====================>…] - ETA: 0s - loss: 0.1063Epoch 4/10
```

```
  20/1149 […] - ETA: 0s - loss: 0.4560
1120/1149 [===========================>.] - ETA: 0s - loss: 0.1756
 420/1149 [=========>…] - ETA: 0s - loss: 1.2660
1148/1148 [============================] - 0s 130us/step - loss: 0.1621
Epoch 5/15

  20/1148 […] - ETA: 0s - loss: 0.1375Epoch 1/15

  20/1149 […] - ETA: 25s - loss: 0.7145
1149/1149 [============================] - 0s 143us/step - loss: 0.1735

 950/1149 [=======================>…] - ETA: 0s - loss: 0.1150Epoch 7/10

  20/1149 […] - ETA: 0s - loss: 0.1419
1080/1149 [===========================>..] - ETA: 0s - loss: 0.1088
 460/1149 [==========>…] - ETA: 0s - loss: 0.3855
 660/1149 [===============>…] - ETA: 0s - loss: 1.1858
1149/1149 [============================] - 0s 285us/step - loss: 0.1078
Epoch 20/20

  10/1149 […] - ETA: 0s - loss: 0.0619
 420/1148 [=========>…] - ETA: 0s - loss: 0.1154
 140/1149 [==>…] - ETA: 3s - loss: 1.1951
 480/1149 [==========>…] - ETA: 0s - loss: 0.1703
1140/1149 [===========================>.] - ETA: 0s - loss: 0.1232
1149/1149 [============================] - 0s 278us/step - loss: 0.1229
Epoch 20/20

  10/1149 […] - ETA: 0s - loss: 0.1044
 820/1149 [===================>…] - ETA: 0s - loss: 0.3529
 880/1149 [====================>…] - ETA: 0s - loss: 1.1871
 250/1149 [=====>…] - ETA: 0s - loss: 0.0899
 820/1148 [===================>…] - ETA: 0s - loss: 0.1133
 240/1149 [=====>…] - ETA: 2s - loss: 1.0321
 860/1149 [===================>…] - ETA: 0s - loss: 0.1702
 220/1149 [====>…] - ETA: 0s - loss: 0.1203
1149/1149 [============================] - 0s 127us/step - loss: 0.3235
Epoch 5/10

  20/1149 […] - ETA: 0s - loss: 0.0726
1149/1149 [============================] - 1s 550us/step - loss: 1.1707
Epoch 2/15

  20/1149 […] - ETA: 0s - loss: 3.1256
1148/1148 [============================] - 0s 134us/step - loss: 0.1106

 470/1149 [==========>…] - ETA: 0s - loss: 0.1003
```

```
1149/1149 [==============================] - 0s 130us/step - loss: 0.1634
Epoch 6/15

  20/1148 […] - ETA: 0s - loss: 0.1139Epoch 8/10

  20/1149 […] - ETA: 0s - loss: 0.1265
 440/1149 [=========>…] - ETA: 0s - loss: 1.1052
 410/1149 [========>…] - ETA: 0s - loss: 0.1360
 440/1149 [=========>…] - ETA: 0s - loss: 0.1836
 340/1149 [=======>…] - ETA: 0s - loss: 1.2980
 400/1148 [=========>…] - ETA: 0s - loss: 0.0910
 680/1149 [===============>…] - ETA: 0s - loss: 0.0997
 340/1149 [=======>…] - ETA: 0s - loss: 0.2039
 680/1149 [===============>…] - ETA: 0s - loss: 1.2626
 610/1149 [=============>…] - ETA: 0s - loss: 0.1379
 820/1149 [===================>…] - ETA: 0s - loss: 0.1861
 780/1149 [==================>…] - ETA: 0s - loss: 1.1215
 850/1149 [====================>…] - ETA: 0s - loss: 0.1044
 720/1148 [=================>…] - ETA: 0s - loss: 0.0936
 760/1149 [==================>…] - ETA: 0s - loss: 0.1646
 920/1149 [======================>…] - ETA: 0s - loss: 1.2109
 780/1149 [==================>…] - ETA: 0s - loss: 0.1245
1149/1149 [==============================] - 0s 130us/step - loss: 0.1887
Epoch 6/10

  20/1149 […] - ETA: 0s - loss: 0.0530
1140/1149 [============================>.] - ETA: 0s - loss: 1.0722
1149/1149 [==============================] - 0s 138us/step - loss: 1.0721
Epoch 3/15

  20/1149 […] - ETA: 0s - loss: 2.6326
1100/1148 [===========================>..] - ETA: 0s - loss: 0.0961
1040/1149 [==========================>…] - ETA: 0s - loss: 0.1105
1140/1149 [============================>.] - ETA: 0s - loss: 0.1569
1148/1148 [==============================] - 0s 141us/step - loss: 0.0954

1149/1149 [==============================] - 1s 663us/step - loss: 1.1891

1149/1149 [==============================] - 0s 141us/step - loss: 0.1573
Epoch 7/15

  20/1148 […] - ETA: 0s - loss: 0.1342Epoch 9/10

  20/1149 […] - ETA: 0s - loss: 0.0665Epoch 2/15

  20/1149 […] - ETA: 0s - loss: 0.9525
1000/1149 [========================>…] - ETA: 0s - loss: 0.1245
 340/1149 [=======>…] - ETA: 0s - loss: 0.1373
```

```
1149/1149 [==============================] - 0s 249us/step - loss: 0.1074

 260/1149 [=====>…] - ETA: 0s - loss: 0.9101
1149/1149 [==============================] - 0s 260us/step - loss: 0.1222

 360/1148 [========>…] - ETA: 0s - loss: 0.0921
 380/1149 [========>…] - ETA: 0s - loss: 1.4423
 400/1149 [=========>…] - ETA: 0s - loss: 0.1542
 720/1149 [=================>…] - ETA: 0s - loss: 0.1457
 620/1149 [==============>…] - ETA: 0s - loss: 0.8158
 920/1149 [=======================>…] - ETA: 0s - loss: 1.2035
 860/1149 [=====================>…] - ETA: 0s - loss: 0.1662
 800/1148 [===================>…] - ETA: 0s - loss: 0.0950
1149/1149 [==============================] - 0s 139us/step - loss: 0.1650
Epoch 7/10

  20/1149 [… ] - ETA: 0s - loss: 0.1547
1149/1149 [==============================] - 0s 123us/step - loss: 0.1531

1040/1149 [==========================>…] - ETA: 0s - loss: 0.7469Epoch 10/10

  20/1149 [… ] - ETA: 0s - loss: 0.0867
1148/1148 [==============================] - 0s 130us/step - loss: 0.0907
Epoch 8/15

  20/1148 [… ] - ETA: 0s - loss: 0.0455
1149/1149 [==============================] - 0s 149us/step - loss: 0.7601

1149/1149 [==============================] - 0s 136us/step - loss: 1.1505
Epoch 4/15

  20/1149 [… ] - ETA: 0s - loss: 0.2425Epoch 3/15

  20/1149 [… ] - ETA: 0s - loss: 2.4689
 440/1149 [=========>…] - ETA: 0s - loss: 0.1383
 360/1149 [========>…] - ETA: 0s - loss: 0.1429
 380/1148 [========>…] - ETA: 0s - loss: 0.0709
 320/1149 [=======>…] - ETA: 0s - loss: 0.4279
 300/1149 [======>…] - ETA: 0s - loss: 1.2731
 780/1149 [==================>…] - ETA: 0s - loss: 0.1603
 720/1149 [=================>…] - ETA: 0s - loss: 0.1474
 760/1148 [==================>…] - ETA: 0s - loss: 0.0795
 620/1149 [==============>…] - ETA: 0s - loss: 0.4464
 620/1149 [==============>…] - ETA: 0s - loss: 1.0847
1100/1149 [===========================>..] - ETA: 0s - loss: 0.1525
1149/1149 [==============================] - 0s 145us/step - loss: 0.1539
Epoch 8/10
```

```
  20/1149 [...] - ETA: 0s - loss: 0.3036
1000/1149 [=========================>...] - ETA: 0s - loss: 0.1424
1060/1148 [==========================>...] - ETA: 0s - loss: 0.0885
 980/1149 [=======================>...] - ETA: 0s - loss: 0.4008
1148/1148 [==============================] - 0s 149us/step - loss: 0.0879


 880/1149 [====================>...] - ETA: 0s - loss: 1.0349Epoch 9/15

  20/1148 [...] - ETA: 0s - loss: 0.0792
1149/1149 [==============================] - 0s 164us/step - loss: 0.1497


 340/1149 [=======>...] - ETA: 0s - loss: 0.1853
1149/1149 [==============================] - 0s 168us/step - loss: 0.3953
Epoch 5/15

  20/1149 [...] - ETA: 0s - loss: 0.2425Epoch 1/15

  20/1149 [...] - ETA: 24s - loss: 1.8203
1149/1149 [==============================] - 0s 188us/step - loss: 1.0000
Epoch 4/15

  20/1149 [...] - ETA: 0s - loss: 0.2519
 280/1148 [======>...] - ETA: 0s - loss: 0.0958
 660/1149 [===============>...] - ETA: 0s - loss: 0.1621
 320/1149 [=======>...] - ETA: 0s - loss: 0.2346
 200/1149 [====>...] - ETA: 2s - loss: 1.3467
 400/1149 [=========>...] - ETA: 0s - loss: 0.8067
 540/1148 [=============>...] - ETA: 0s - loss: 0.0849
 960/1149 [========================>...] - ETA: 0s - loss: 0.1529
 640/1149 [===============>...] - ETA: 0s - loss: 0.2533
 840/1148 [====================>...] - ETA: 0s - loss: 0.0861
 460/1149 [===========>...] - ETA: 0s - loss: 1.1084
 760/1149 [==================>...] - ETA: 0s - loss: 0.8505
1149/1149 [==============================] - 0s 168us/step - loss: 0.1477
Epoch 9/10

  20/1149 [...] - ETA: 0s - loss: 0.0682
1000/1149 [=========================>...] - ETA: 0s - loss: 0.2339
1148/1148 [==============================] - 0s 168us/step - loss: 0.0865
Epoch 10/15

  20/1148 [...] - ETA: 0s - loss: 0.0816
1149/1149 [==============================] - 0s 153us/step - loss: 0.2263
Epoch 6/15

  20/1149 [...] - ETA: 0s - loss: 0.2859
1080/1149 [===========================>..] - ETA: 0s - loss: 0.9133
 800/1149 [==================>...] - ETA: 0s - loss: 1.1755
```

```
 420/1149 [=========>…] - ETA: 0s - loss: 0.1188
1149/1149 [==============================] - 0s 150us/step - loss: 0.8887
Epoch 5/15

  20/1149 […] - ETA: 0s - loss: 0.1638
 440/1148 [=========>…] - ETA: 0s - loss: 0.0753
 420/1149 [========>…] - ETA: 0s - loss: 0.1775
1100/1149 [==========================>..] - ETA: 0s - loss: 1.1462
1149/1149 [==============================] - 1s 572us/step - loss: 1.1327
Epoch 2/15

  20/1149 […] - ETA: 0s - loss: 1.0972
 840/1149 [====================>…] - ETA: 0s - loss: 0.1320
 440/1149 [=========>…] - ETA: 0s - loss: 0.8787
 860/1148 [=====================>…] - ETA: 0s - loss: 0.0772
1149/1149 [==============================] - 0s 123us/step - loss: 0.1434
Epoch 10/10

  20/1149 […] - ETA: 0s - loss: 0.2429
 840/1149 [====================>…] - ETA: 0s - loss: 0.1885
 280/1149 [======>…] - ETA: 0s - loss: 1.3445
 840/1149 [====================>…] - ETA: 0s - loss: 0.8903
1148/1148 [==============================] - 0s 124us/step - loss: 0.0851
Epoch 11/15

  20/1148 […] - ETA: 0s - loss: 0.0992
 440/1149 [=========>…] - ETA: 0s - loss: 0.1234
1149/1149 [==============================] - 0s 131us/step - loss: 0.1835
Epoch 7/15

  20/1149 […] - ETA: 0s - loss: 0.1545
1149/1149 [==============================] - 0s 125us/step - loss: 0.8321

 440/1149 [=========>…] - ETA: 0s - loss: 1.3787Epoch 6/15

  20/1149 […] - ETA: 0s - loss: 0.7462
 440/1148 [=========>…] - ETA: 0s - loss: 0.0865
 800/1149 [==================>…] - ETA: 0s - loss: 0.1236
 340/1149 [=======>…] - ETA: 0s - loss: 0.1683
 680/1149 [================>…] - ETA: 0s - loss: 1.2319
 400/1149 [========>…] - ETA: 0s - loss: 0.6635
 780/1148 [==================>…] - ETA: 0s - loss: 0.0851
1120/1149 [===========================>.] - ETA: 0s - loss: 0.1411
 700/1149 [=================>…] - ETA: 0s - loss: 0.1749
1149/1149 [==============================] - 0s 138us/step - loss: 0.1398

1149/1149 [==============================] - 0s 175us/step - loss: 1.0962
Epoch 3/15
```

```
  20/1149 […] - ETA: 0s - loss: 0.8726
 820/1149 [===================>…] - ETA: 0s - loss: 0.8022
1120/1148 [============================>.] - ETA: 0s - loss: 0.0848
1148/1148 [=============================] - 0s 143us/step - loss: 0.0846
Epoch 12/15

  20/1148 […] - ETA: 0s - loss: 0.0838
1140/1149 [============================>.] - ETA: 0s - loss: 0.1707
1149/1149 [=============================] - 0s 139us/step - loss: 0.1703
Epoch 8/15

  20/1149 […] - ETA: 0s - loss: 0.3435
 500/1149 [===========>…] - ETA: 0s - loss: 0.9582
1149/1149 [=============================] - 0s 133us/step - loss: 0.7886
Epoch 7/15

  20/1149 […] - ETA: 0s - loss: 0.8648Epoch 1/15

  20/1149 […] - ETA: 27s - loss: 1.0800
 440/1148 [=========>…] - ETA: 0s - loss: 0.0812Epoch 1/20

  20/1148 […] - ETA: 27s - loss: 0.3034
 400/1149 [=========>…] - ETA: 0s - loss: 0.1773
 920/1149 [======================>…] - ETA: 0s - loss: 0.8648
 440/1149 [=========>…] - ETA: 0s - loss: 0.6610
 200/1149 [====>…] - ETA: 2s - loss: 1.0496
 780/1148 [==================>…] - ETA: 0s - loss: 0.0819
 260/1148 [=====>…] - ETA: 1s - loss: 0.3773
1149/1149 [=============================] - 0s 123us/step - loss: 0.9024
Epoch 4/15

  20/1149 […] - ETA: 0s - loss: 0.6313
 760/1149 [=================>…] - ETA: 0s - loss: 0.1664
 820/1149 [===================>…] - ETA: 0s - loss: 0.7666
 480/1149 [==========>…] - ETA: 0s - loss: 1.0485
1148/1148 [=============================] - 0s 135us/step - loss: 0.0843

 540/1148 [============>…] - ETA: 0s - loss: 0.3568Epoch 13/15

  20/1148 […] - ETA: 0s - loss: 0.0584
 460/1149 [==========>…] - ETA: 0s - loss: 0.6445
1149/1149 [=============================] - 0s 125us/step - loss: 0.7509
Epoch 8/15

  20/1149 […] - ETA: 0s - loss: 0.5021
1140/1149 [============================>.] - ETA: 0s - loss: 0.1625
1149/1149 [=============================] - 0s 139us/step - loss: 0.1632
```

```
760/1149 [==================>…] - ETA: 0s - loss: 1.1308Epoch 9/15


  20/1149 […] - ETA: 0s - loss: 0.1062
 800/1148 [===================>…] - ETA: 0s - loss: 0.3575
 420/1148 [========>…] - ETA: 0s - loss: 0.0903
 900/1149 [=====================>…] - ETA: 0s - loss: 0.5743
 420/1149 [========>…] - ETA: 0s - loss: 0.8206
1140/1149 [============================>.] - ETA: 0s - loss: 1.0958
 440/1149 [=========>…] - ETA: 0s - loss: 0.1480
1149/1149 [=============================] - 1s 606us/step - loss: 1.0976
Epoch 2/15


  20/1149 […] - ETA: 0s - loss: 1.3960
1149/1149 [=============================] - 0s 125us/step - loss: 0.5480
Epoch 5/15


  20/1149 […] - ETA: 0s - loss: 0.1738
 800/1148 [===================>…] - ETA: 0s - loss: 0.0823
 960/1148 [========================>…] - ETA: 0s - loss: 0.3552
 840/1149 [===================>…] - ETA: 0s - loss: 0.8089
 860/1149 [====================>…] - ETA: 0s - loss: 0.1621
 300/1149 [======>…] - ETA: 0s - loss: 1.1193
1148/1148 [=============================] - 1s 633us/step - loss: 0.3606
Epoch 2/20


  20/1148 […] - ETA: 0s - loss: 0.3397
 380/1149 [=======>…] - ETA: 0s - loss: 0.3833
1148/1148 [=============================] - 0s 135us/step - loss: 0.0836
Epoch 14/15


  20/1148 […] - ETA: 0s - loss: 0.1070
1149/1149 [=============================] - 0s 132us/step - loss: 0.7176
Epoch 9/15


  20/1149 […] - ETA: 0s - loss: 0.6414
1149/1149 [=============================] - 0s 127us/step - loss: 0.1586
Epoch 10/15


  20/1149 […] - ETA: 0s - loss: 0.1079
 580/1149 [=============>…] - ETA: 0s - loss: 1.0090
 320/1148 [=======>…] - ETA: 0s - loss: 0.3303Epoch 1/20


  20/1149 […] - ETA: 30s - loss: 1.1406
 800/1149 [===================>…] - ETA: 0s - loss: 0.2993
 400/1148 [========>…] - ETA: 0s - loss: 0.0778
 420/1149 [========>…] - ETA: 0s - loss: 0.7553
 400/1149 [========>…] - ETA: 0s - loss: 0.1681
```

```
 860/1149 [====================>…] - ETA: 0s - loss: 1.0113
1149/1149 [==============================] - 0s 129us/step - loss: 0.2875
Epoch 6/15

  20/1149 [...] - ETA: 0s - loss: 0.1410
 640/1148 [==============>…] - ETA: 0s - loss: 0.3186
 100/1149 [=>…] - ETA: 6s - loss: 1.1342
 860/1148 [====================>…] - ETA: 0s - loss: 0.0811
 800/1149 [==================>…] - ETA: 0s - loss: 0.6757
 800/1149 [==================>…] - ETA: 0s - loss: 0.1565
1149/1149 [==============================] - 0s 184us/step - loss: 1.0699
Epoch 3/15

  20/1149 [...] - ETA: 0s - loss: 0.9762
 440/1149 [=========>…] - ETA: 0s - loss: 0.1886
 920/1148 [=======================>…] - ETA: 0s - loss: 0.3062
1148/1148 [==============================] - 0s 130us/step - loss: 0.0837
Epoch 15/15

  20/1148 [...] - ETA: 0s - loss: 0.0598
 260/1149 [=====>…] - ETA: 2s - loss: 1.1457
1149/1149 [==============================] - 0s 132us/step - loss: 0.6870

1149/1149 [==============================] - 0s 130us/step - loss: 0.1550
Epoch 10/15

  20/1149 [...] - ETA: 0s - loss: 0.9868Epoch 11/15

  20/1149 [...] - ETA: 0s - loss: 0.1127
1148/1148 [==============================] - 0s 162us/step - loss: 0.3016
Epoch 3/20

  20/1148 [...] - ETA: 0s - loss: 0.2631
 380/1149 [=======>…] - ETA: 0s - loss: 1.0366
 840/1149 [====================>…] - ETA: 0s - loss: 0.1884
 480/1148 [==========>…] - ETA: 0s - loss: 0.0884
 320/1149 [=======>…] - ETA: 0s - loss: 0.6756
 480/1149 [==========>…] - ETA: 0s - loss: 0.1565
 320/1149 [=======>…] - ETA: 1s - loss: 1.1049
 380/1148 [=======>…] - ETA: 0s - loss: 0.2611
1149/1149 [==============================] - 0s 131us/step - loss: 0.1879
Epoch 7/15

  20/1149 [...] - ETA: 0s - loss: 0.2397
 740/1149 [==================>…] - ETA: 0s - loss: 1.1459
 880/1148 [=====================>…] - ETA: 0s - loss: 0.0858
 760/1149 [==================>…] - ETA: 0s - loss: 0.6444
 860/1149 [====================>…] - ETA: 0s - loss: 0.1574
```

```
 520/1149 [============>…] - ETA: 0s - loss: 1.2472
 700/1148 [=================>…] - ETA: 0s - loss: 0.2412
 480/1149 [===========>…] - ETA: 0s - loss: 0.1568
1148/1148 [==============================] - 0s 124us/step - loss: 0.0833


1080/1149 [==========================>..] - ETA: 0s - loss: 0.9934
1149/1149 [==============================] - 0s 130us/step - loss: 0.6593
Epoch 11/15

  20/1149 […] - ETA: 0s - loss: 1.3454
1149/1149 [==============================] - 0s 152us/step - loss: 0.9900

1149/1149 [==============================] - 0s 131us/step - loss: 0.1523
Epoch 12/15

  20/1149 […] - ETA: 0s - loss: 0.1072Epoch 4/15

  20/1149 […] - ETA: 0s - loss: 0.3979
 860/1149 [====================>…] - ETA: 0s - loss: 1.2068
1140/1148 [============================>.] - ETA: 0s - loss: 0.2189
1148/1148 [==============================] - 0s 140us/step - loss: 0.2181
Epoch 4/20

  20/1148 […] - ETA: 0s - loss: 0.0574
 860/1149 [====================>…] - ETA: 0s - loss: 0.1604
 440/1149 [=========>…] - ETA: 0s - loss: 0.6594
 400/1149 [=========>…] - ETA: 0s - loss: 0.1216
 380/1149 [========>…] - ETA: 0s - loss: 0.8499
1149/1149 [==============================] - 1s 755us/step - loss: 1.1827
Epoch 2/20

  20/1149 […] - ETA: 0s - loss: 1.2312
1149/1149 [==============================] - 0s 122us/step - loss: 0.1553
Epoch 8/15

  20/1149 […] - ETA: 0s - loss: 0.1168
 360/1148 [=======>…] - ETA: 0s - loss: 0.1438
 780/1149 [==================>…] - ETA: 0s - loss: 0.7215
 780/1149 [==================>…] - ETA: 0s - loss: 0.1445
 760/1149 [=================>…] - ETA: 0s - loss: 0.8979
 320/1149 [======>…] - ETA: 0s - loss: 1.0835
 360/1149 [=======>…] - ETA: 0s - loss: 0.1772
 740/1148 [=================>…] - ETA: 0s - loss: 0.1454
1149/1149 [==============================] - 0s 134us/step - loss: 0.6335
Epoch 12/15

  20/1149 […] - ETA: 0s - loss: 0.7415
1140/1149 [===========================>.] - ETA: 0s - loss: 0.1490
```

```
1120/1149 [==========================>.] - ETA: 0s - loss: 0.8834
1149/1149 [============================] - 0s 138us/step - loss: 0.1490
Epoch 13/15

  20/1149 [...] - ETA: 0s - loss: 0.1301
1149/1149 [============================] - 0s 141us/step - loss: 0.8890
Epoch 5/15

  20/1149 [...] - ETA: 0s - loss: 0.1799
 600/1149 [=============>...] - ETA: 0s - loss: 1.0690
 740/1149 [=================>...] - ETA: 0s - loss: 0.1502
1100/1148 [==========================>..] - ETA: 0s - loss: 0.1442
1148/1148 [============================] - 0s 143us/step - loss: 0.1431
Epoch 5/20

  20/1148 [...] - ETA: 0s - loss: 0.0740
 400/1149 [========>...] - ETA: 0s - loss: 0.6740Epoch 1/20

  20/1149 [...] - ETA: 28s - loss: 1.2002
 400/1149 [========>...] - ETA: 0s - loss: 0.1370
 440/1149 [=========>...] - ETA: 0s - loss: 0.8318
1120/1149 [==========================>.] - ETA: 0s - loss: 0.1416
 820/1149 [===================>...] - ETA: 0s - loss: 1.0832
1149/1149 [============================] - 0s 143us/step - loss: 0.1419
Epoch 9/15

  20/1149 [...] - ETA: 0s - loss: 0.1029
 400/1148 [========>...] - ETA: 0s - loss: 0.1251
 280/1149 [======>...] - ETA: 1s - loss: 1.0822
 780/1149 [==================>...] - ETA: 0s - loss: 0.6697
 780/1149 [==================>...] - ETA: 0s - loss: 0.1348
 860/1149 [====================>...] - ETA: 0s - loss: 0.8151
1060/1149 [=========================>...] - ETA: 0s - loss: 1.1162
 400/1149 [========>...] - ETA: 0s - loss: 0.1386
 800/1148 [==================>...] - ETA: 0s - loss: 0.1096
1149/1149 [============================] - 0s 200us/step - loss: 1.0991
Epoch 3/20

  20/1149 [...] - ETA: 0s - loss: 0.6858
1149/1149 [============================] - 0s 118us/step - loss: 0.8190

1149/1149 [============================] - 0s 133us/step - loss: 0.6087
Epoch 6/15

  20/1149 [...] - ETA: 0s - loss: 1.0630Epoch 13/15

  20/1149 [...] - ETA: 0s - loss: 0.5206
1149/1149 [============================] - 0s 133us/step - loss: 0.1464
```

```
Epoch 14/15

  20/1149 […] - ETA: 0s - loss: 0.2103
 400/1149 [========>…] - ETA: 1s - loss: 1.0460
 800/1149 [==================>…] - ETA: 0s - loss: 0.1310
1060/1148 [==========================>…] - ETA: 0s - loss: 0.1066
 620/1149 [==============>…] - ETA: 0s - loss: 1.0759
 240/1149 [=====>…] - ETA: 0s - loss: 0.7396
 540/1149 [============>…] - ETA: 0s - loss: 0.5984
1148/1148 [============================] - 0s 152us/step - loss: 0.1062


 560/1149 [============>…] - ETA: 0s - loss: 1.0719Epoch 6/20

  20/1148 […] - ETA: 0s - loss: 0.0705
 420/1149 [========>…] - ETA: 0s - loss: 0.1488
1149/1149 [============================] - 0s 126us/step - loss: 0.1335
Epoch 10/15

  20/1149 […] - ETA: 0s - loss: 0.0841
1080/1149 [==========================>..] - ETA: 0s - loss: 0.9617
 520/1149 [===========>…] - ETA: 0s - loss: 0.7658
1149/1149 [============================] - 0s 100us/step - loss: 0.9390
Epoch 4/20

  20/1149 […] - ETA: 0s - loss: 0.5238
 940/1149 [======================>…] - ETA: 0s - loss: 0.6247
 780/1149 [==================>…] - ETA: 0s - loss: 1.1247
 860/1149 [====================>…] - ETA: 0s - loss: 0.1469
 380/1148 [========>…] - ETA: 0s - loss: 0.0888
 500/1149 [===========>…] - ETA: 0s - loss: 0.1322
1149/1149 [============================] - 0s 125us/step - loss: 0.5857
Epoch 14/15

  20/1149 […] - ETA: 0s - loss: 0.6943
 920/1149 [======================>…] - ETA: 0s - loss: 0.7790
 480/1149 [==========>…] - ETA: 0s - loss: 0.9314
1149/1149 [============================] - 0s 133us/step - loss: 0.1444
Epoch 15/15

  20/1149 […] - ETA: 0s - loss: 0.0881
 840/1148 [===================>…] - ETA: 0s - loss: 0.0899
1020/1149 [=========================>…] - ETA: 0s - loss: 1.1567
 900/1149 [=====================>…] - ETA: 0s - loss: 0.1302
1149/1149 [============================] - 0s 168us/step - loss: 0.7703
Epoch 7/15

  20/1149 […] - ETA: 0s - loss: 0.4730
 420/1149 [========>…] - ETA: 0s - loss: 0.6039
```

```
1148/1148 [==============================] - 0s 123us/step - loss: 0.0932
Epoch 7/20

  20/1148 […] - ETA: 0s - loss: 0.0531
 880/1149 [====================>…] - ETA: 0s - loss: 0.8604
1149/1149 [==============================] - 0s 116us/step - loss: 0.1297
Epoch 11/15

  20/1149 […] - ETA: 0s - loss: 0.1774
 400/1149 [=========>…] - ETA: 0s - loss: 0.1179
1140/1149 [=============================>.] - ETA: 0s - loss: 1.1781
1149/1149 [==============================] - 1s 734us/step - loss: 1.1713
Epoch 2/20

  20/1149 […] - ETA: 0s - loss: 0.4446
1149/1149 [==============================] - 0s 117us/step - loss: 0.8627
Epoch 5/20

  20/1149 […] - ETA: 0s - loss: 0.7893
 400/1149 [=========>…] - ETA: 0s - loss: 0.7091
 780/1149 [==================>…] - ETA: 0s - loss: 0.6507
 480/1148 [==========>…] - ETA: 0s - loss: 0.0803
 760/1149 [==================>…] - ETA: 0s - loss: 0.1490
 400/1149 [=========>…] - ETA: 0s - loss: 0.1378
 500/1149 [===========>…] - ETA: 0s - loss: 1.0120
 280/1149 [======>…] - ETA: 0s - loss: 0.9440
 780/1149 [==================>…] - ETA: 0s - loss: 0.7872
1149/1149 [==============================] - 0s 132us/step - loss: 0.5638
Epoch 15/15

  20/1149 […] - ETA: 0s - loss: 0.7004
 820/1148 [===================>…] - ETA: 0s - loss: 0.0887
 620/1149 [==============>…] - ETA: 0s - loss: 0.1301
1120/1149 [=============================>.] - ETA: 0s - loss: 0.1431
1149/1149 [==============================] - 0s 142us/step - loss: 0.1426

 920/1149 [======================>…] - ETA: 0s - loss: 1.0511
1149/1149 [==============================] - 0s 132us/step - loss: 0.7327

 560/1149 [=============>…] - ETA: 0s - loss: 0.9045Epoch 8/15

  20/1149 […] - ETA: 0s - loss: 0.6932
1148/1148 [==============================] - 0s 126us/step - loss: 0.0879
Epoch 8/20

  20/1148 […] - ETA: 0s - loss: 0.1125
 420/1149 [=========>…] - ETA: 0s - loss: 0.5234
1149/1149 [==============================] - 0s 110us/step - loss: 1.0947
```

```
Epoch 3/20

  20/1149 […] - ETA: 0s - loss: 1.1427
 900/1149 [=====================>…] - ETA: 0s - loss: 0.1310
 880/1149 [====================>…] - ETA: 0s - loss: 0.8200
 360/1149 [=======>…] - ETA: 0s - loss: 0.7529
 400/1148 [========>…] - ETA: 0s - loss: 0.0907
 780/1149 [==================>…] - ETA: 0s - loss: 0.5690
1149/1149 [============================] - 0s 172us/step - loss: 0.1268
Epoch 12/15

  20/1149 […] - ETA: 0s - loss: 0.1250
 200/1149 [====>…] - ETA: 0s - loss: 1.0120
1149/1149 [============================] - 0s 167us/step - loss: 0.8149
Epoch 6/20

  20/1149 […] - ETA: 0s - loss: 0.2430
 740/1149 [=================>…] - ETA: 0s - loss: 0.6536
1149/1149 [============================] - 0s 131us/step - loss: 0.5429

 800/1148 [==================>…] - ETA: 0s - loss: 0.0874
 360/1149 [=======>…] - ETA: 0s - loss: 0.1149
 380/1149 [=======>…] - ETA: 0s - loss: 0.9786
 380/1149 [=======>…] - ETA: 0s - loss: 0.6485
1100/1149 [=========================>..] - ETA: 0s - loss: 0.6998
1148/1148 [============================] - 0s 133us/step - loss: 0.0848
Epoch 9/20

  20/1148 […] - ETA: 0s - loss: 0.0622
1149/1149 [============================] - 0s 145us/step - loss: 0.6998
Epoch 9/15

  20/1149 […] - ETA: 0s - loss: 1.0228
 700/1149 [================>…] - ETA: 0s - loss: 0.1195
 600/1149 [=============>…] - ETA: 0s - loss: 0.9446
 700/1149 [================>…] - ETA: 0s - loss: 0.6605
 300/1148 [=====>…] - ETA: 0s - loss: 0.0751
 300/1149 [=====>…] - ETA: 0s - loss: 0.7485
1000/1149 [=======================>…] - ETA: 0s - loss: 0.1153
 920/1149 [=====================>…] - ETA: 0s - loss: 0.9184
 980/1149 [======================>…] - ETA: 0s - loss: 0.7668Epoch 1/20

  20/1149 […] - ETA: 32s - loss: 1.0811
1149/1149 [============================] - 0s 166us/step - loss: 0.1259
Epoch 13/15

  20/1149 […] - ETA: 0s - loss: 0.1370
 640/1148 [==============>…] - ETA: 0s - loss: 0.0802
```

```
1149/1149 [==============================] - 0s 158us/step - loss: 0.7745
Epoch 7/20

  20/1149 […] - ETA: 0s - loss: 0.8613
 620/1149 [==============>…] - ETA: 0s - loss: 0.7131
1149/1149 [==============================] - 0s 221us/step - loss: 0.8505
Epoch 4/20

  20/1149 […] - ETA: 0s - loss: 1.0568
 180/1149 [===>…] - ETA: 3s - loss: 1.1073
 440/1149 [==========>…] - ETA: 0s - loss: 0.1030
1000/1148 [=========================>…] - ETA: 0s - loss: 0.0825
 420/1149 [=========>…] - ETA: 0s - loss: 0.7207
 980/1149 [=========================>…] - ETA: 0s - loss: 0.6739
 280/1149 [======>…] - ETA: 0s - loss: 0.6796
1148/1148 [==============================] - 0s 159us/step - loss: 0.0828
Epoch 10/20

  20/1148 […] - ETA: 0s - loss: 0.0706
1149/1149 [==============================] - 0s 159us/step - loss: 0.6709
Epoch 10/15

  20/1149 […] - ETA: 0s - loss: 0.7115
 360/1149 [========>…] - ETA: 1s - loss: 1.0951
 880/1149 [=====================>…] - ETA: 0s - loss: 0.1252
 860/1149 [=====================>…] - ETA: 0s - loss: 0.7145
 640/1149 [===============>…] - ETA: 0s - loss: 0.5305
 400/1148 [=========>…] - ETA: 0s - loss: 0.0738
1149/1149 [==============================] - 0s 119us/step - loss: 0.1241
Epoch 14/15

  20/1149 […] - ETA: 0s - loss: 0.1086
 400/1149 [=========>…] - ETA: 0s - loss: 0.7506
 600/1149 [==============>…] - ETA: 0s - loss: 1.1460
1149/1149 [==============================] - 0s 123us/step - loss: 0.7392
Epoch 8/20

  20/1149 […] - ETA: 0s - loss: 0.4122
 980/1149 [=========================>…] - ETA: 0s - loss: 0.4638
 820/1148 [====================>…] - ETA: 0s - loss: 0.0807
 420/1149 [=========>…] - ETA: 0s - loss: 0.1280
 780/1149 [===================>…] - ETA: 0s - loss: 0.6872
1149/1149 [==============================] - 0s 167us/step - loss: 0.4519

 800/1149 [==================>…] - ETA: 0s - loss: 1.1480Epoch 5/20

  20/1149 […] - ETA: 0s - loss: 0.5644
 360/1149 [========>…] - ETA: 0s - loss: 0.7913
```

```
1148/1148 [==============================] - 0s 129us/step - loss: 0.0817
Epoch 11/20

  20/1148 […] - ETA: 0s - loss: 0.3032
 780/1149 [=================>…] - ETA: 0s - loss: 0.1294
1149/1149 [==============================] - 0s 138us/step - loss: 0.6443
Epoch 11/15

  20/1149 […] - ETA: 0s - loss: 0.4672
1100/1149 [==========================>..] - ETA: 0s - loss: 1.1319
 300/1149 [======>…] - ETA: 0s - loss: 0.2591
 720/1149 [=================>…] - ETA: 0s - loss: 0.7378
1149/1149 [==============================] - 1s 746us/step - loss: 1.1286
Epoch 2/20

  20/1149 […] - ETA: 0s - loss: 0.8600
 420/1148 [=========>…] - ETA: 0s - loss: 0.0881
1120/1149 [===========================>.] - ETA: 0s - loss: 0.1236
1149/1149 [==============================] - 0s 142us/step - loss: 0.1224
Epoch 15/15

  20/1149 […] - ETA: 0s - loss: 0.1219
 440/1149 [==========>…] - ETA: 0s - loss: 0.7364
 640/1149 [==============>…] - ETA: 0s - loss: 0.2245
1080/1149 [==========================>..] - ETA: 0s - loss: 0.7090
 320/1149 [=======>…] - ETA: 0s - loss: 1.0420
1149/1149 [==============================] - 0s 150us/step - loss: 0.7078
Epoch 9/20

  20/1149 […] - ETA: 0s - loss: 0.7422
 800/1148 [==================>…] - ETA: 0s - loss: 0.0860
 380/1149 [========>…] - ETA: 0s - loss: 0.1011
 780/1149 [==================>…] - ETA: 0s - loss: 0.6370
 980/1149 [=======================>…] - ETA: 0s - loss: 0.2211
 600/1149 [==============>…] - ETA: 0s - loss: 0.9861
 400/1149 [=========>…] - ETA: 0s - loss: 0.7554
1149/1149 [==============================] - 0s 158us/step - loss: 0.2097

1140/1148 [===========================>.] - ETA: 0s - loss: 0.0810
1148/1148 [==============================] - 0s 141us/step - loss: 0.0807
Epoch 6/20

  20/1149 […] - ETA: 0s - loss: 0.1538Epoch 12/20

  20/1148 […] - ETA: 0s - loss: 0.0546
 720/1149 [=================>…] - ETA: 0s - loss: 0.1176
1120/1149 [===========================>.] - ETA: 0s - loss: 0.6275
1149/1149 [==============================] - 0s 142us/step - loss: 0.6198
```

```
Epoch 12/15

  20/1149 [……] - ETA: 0s - loss: 0.4195
 820/1149 [===================>…] - ETA: 0s - loss: 1.0687
 820/1149 [===================>…] - ETA: 0s - loss: 0.6562
 460/1149 [==========>…] - ETA: 0s - loss: 0.1645
 360/1148 [========>…] - ETA: 0s - loss: 0.0817
1120/1149 [===========================>.] - ETA: 0s - loss: 0.1219
1149/1149 [============================] - 0s 143us/step - loss: 0.1214

 460/1149 [==========>…] - ETA: 0s - loss: 0.4580
1149/1149 [============================] - 0s 131us/step - loss: 0.6780
Epoch 10/20

  20/1149 [……] - ETA: 0s - loss: 0.4980
1100/1149 [==========================>..] - ETA: 0s - loss: 1.0445
1149/1149 [============================] - 0s 195us/step - loss: 1.0359

 900/1149 [=====================>…] - ETA: 0s - loss: 0.1617Epoch 3/20

  20/1149 [……] - ETA: 0s - loss: 0.9815
 760/1148 [==================>…] - ETA: 0s - loss: 0.0839
 860/1149 [====================>…] - ETA: 0s - loss: 0.5348
1149/1149 [============================] - 0s 121us/step - loss: 0.1518
Epoch 7/20

  20/1149 [……] - ETA: 0s - loss: 0.0819
 420/1149 [========>…] - ETA: 0s - loss: 0.6343
 360/1149 [========>…] - ETA: 0s - loss: 0.8685
1148/1148 [============================] - 0s 138us/step - loss: 0.0806
Epoch 13/20

  20/1148 [……] - ETA: 0s - loss: 0.0805
1149/1149 [============================] - 0s 126us/step - loss: 0.5974
Epoch 13/15

  20/1149 [……] - ETA: 0s - loss: 0.2993
 420/1149 [========>…] - ETA: 0s - loss: 0.1492
 820/1149 [===================>…] - ETA: 0s - loss: 0.6635
 860/1149 [====================>…] - ETA: 0s - loss: 0.7598
 460/1148 [==========>…] - ETA: 0s - loss: 0.0710
 400/1149 [========>…] - ETA: 0s - loss: 0.5099
1149/1149 [============================] - 0s 117us/step - loss: 0.7275
Epoch 4/20

  20/1149 [……] - ETA: 0s - loss: 0.3859
 820/1149 [===================>…] - ETA: 0s - loss: 0.1333
1149/1149 [============================] - 0s 136us/step - loss: 0.6513
```

```
Epoch 11/20

  20/1149 […] - ETA: 0s - loss: 1.1965Epoch 1/5

  30/1148 […] - ETA: 19s - loss: 0.2821
 880/1148 [===================>…] - ETA: 0s - loss: 0.0757
 800/1149 [==================>…] - ETA: 0s - loss: 0.5794
 380/1149 [=======>…] - ETA: 0s - loss: 0.4875
1149/1149 [============================] - 0s 134us/step - loss: 0.1401
Epoch 8/20

  20/1149 […] - ETA: 0s - loss: 0.1753
 460/1149 [==========>…] - ETA: 0s - loss: 0.6556
 120/1148 [==>…] - ETA: 4s - loss: 0.3242
1148/1148 [============================] - 0s 125us/step - loss: 0.0798
Epoch 14/20

  20/1148 […] - ETA: 0s - loss: 0.0780
1149/1149 [============================] - 0s 131us/step - loss: 0.5760
Epoch 14/15

  20/1149 […] - ETA: 0s - loss: 0.2120
 760/1149 [=================>…] - ETA: 0s - loss: 0.4000Epoch 1/20

  20/1149 […] - ETA: 29s - loss: 0.5457
 420/1149 [========>…] - ETA: 0s - loss: 0.1237
 880/1149 [====================>…] - ETA: 0s - loss: 0.6172
 390/1148 [========>…] - ETA: 1s - loss: 0.3634
 420/1148 [========>…] - ETA: 0s - loss: 0.0873
 440/1149 [=========>…] - ETA: 0s - loss: 0.5561
1149/1149 [============================] - 0s 118us/step - loss: 0.6260
Epoch 12/20

  20/1149 […] - ETA: 0s - loss: 1.6293
1149/1149 [============================] - 0s 129us/step - loss: 0.3625
Epoch 5/20

  20/1149 […] - ETA: 0s - loss: 0.1371
 260/1149 [=====>…] - ETA: 1s - loss: 1.0879
 860/1149 [===================>…] - ETA: 0s - loss: 0.1417
 780/1148 [==================>…] - ETA: 0s - loss: 0.3705
 840/1148 [===================>…] - ETA: 0s - loss: 0.0803
 840/1149 [===================>…] - ETA: 0s - loss: 0.5237
 380/1149 [=======>…] - ETA: 0s - loss: 0.7919
1149/1149 [============================] - 0s 124us/step - loss: 0.1346


1148/1148 [============================] - 1s 613us/step - loss: 0.3691
```

```
420/1149 [=========>…] - ETA: 0s - loss: 0.2157Epoch 9/20

  20/1149 […] - ETA: 0s - loss: 0.0775Epoch 2/5

  30/1148 […] - ETA: 0s - loss: 0.3001
1148/1148 [==============================] - 0s 126us/step - loss: 0.0794
Epoch 15/20

  20/1148 […] - ETA: 0s - loss: 0.0491
 440/1149 [=========>…] - ETA: 1s - loss: 1.1967
1149/1149 [==============================] - 0s 130us/step - loss: 0.5553
Epoch 15/15

  20/1149 […] - ETA: 0s - loss: 0.3389
 740/1149 [==================>…] - ETA: 0s - loss: 0.6758
 800/1149 [====================>…] - ETA: 0s - loss: 0.2044
 540/1148 [=============>…] - ETA: 0s - loss: 0.3451
 460/1149 [==========>…] - ETA: 0s - loss: 0.1498
 460/1148 [==========>…] - ETA: 0s - loss: 0.0756
 720/1149 [=================>…] - ETA: 0s - loss: 1.1333
 420/1149 [=========>…] - ETA: 0s - loss: 0.5778
1149/1149 [==============================] - 0s 130us/step - loss: 0.1945

1080/1149 [==========================>..] - ETA: 0s - loss: 0.6098Epoch 6/20

  20/1149 […] - ETA: 0s - loss: 0.1370
 900/1149 [=====================>…] - ETA: 0s - loss: 0.1368
1140/1148 [=============================>.] - ETA: 0s - loss: 0.3328
1149/1149 [==============================] - 0s 148us/step - loss: 0.6032

1148/1148 [==============================] - 0s 99us/step - loss: 0.3325
Epoch 13/20

  20/1149 […] - ETA: 0s - loss: 0.2973Epoch 3/5

  30/1148 […] - ETA: 0s - loss: 0.2586
 820/1148 [===================>…] - ETA: 0s - loss: 0.0755
 860/1149 [====================>…] - ETA: 0s - loss: 0.4999
1149/1149 [==============================] - 0s 124us/step - loss: 0.1314
Epoch 10/20

  20/1149 […] - ETA: 0s - loss: 0.1760
 860/1149 [====================>…] - ETA: 0s - loss: 1.1077
 460/1149 [==========>…] - ETA: 0s - loss: 0.1595
 400/1149 [========>…] - ETA: 0s - loss: 0.6281
1148/1148 [==============================] - 0s 134us/step - loss: 0.0790
Epoch 16/20
```

```
  20/1148 […] - ETA: 0s - loss: 0.0441
1149/1149 [==============================] - 0s 121us/step - loss: 0.5353

 540/1148 [=============>…] - ETA: 0s - loss: 0.3059
 360/1149 [========>…] - ETA: 0s - loss: 0.1446
1080/1149 [===========================>..] - ETA: 0s - loss: 1.1257
 940/1149 [=======================>…] - ETA: 0s - loss: 0.1596
1149/1149 [==============================] - 1s 720us/step - loss: 1.0959
Epoch 2/20

  20/1149 […] - ETA: 0s - loss: 1.0476
 840/1149 [====================>…] - ETA: 0s - loss: 0.6050
 420/1148 [=========>…] - ETA: 0s - loss: 0.0843
 930/1148 [======================>…] - ETA: 0s - loss: 0.2890
1149/1149 [==============================] - 0s 116us/step - loss: 0.1531
Epoch 7/20

  20/1149 […] - ETA: 0s - loss: 0.1065
 780/1149 [==================>…] - ETA: 0s - loss: 0.1307
1148/1148 [==============================] - 0s 114us/step - loss: 0.2804
Epoch 4/5

  30/1148 […] - ETA: 0s - loss: 0.3810
1149/1149 [==============================] - 0s 124us/step - loss: 0.5810
Epoch 14/20

  20/1149 […] - ETA: 0s - loss: 0.4479
 380/1149 [========>…] - ETA: 0s - loss: 1.0948
 840/1148 [====================>…] - ETA: 0s - loss: 0.0820
 460/1149 [==========>…] - ETA: 0s - loss: 0.1468
1149/1149 [==============================] - 0s 132us/step - loss: 0.1289
Epoch 11/20

  20/1149 […] - ETA: 0s - loss: 0.1275
 300/1148 [======>…] - ETA: 0s - loss: 0.2719
 420/1149 [========>…] - ETA: 0s - loss: 0.5423
1148/1148 [==============================] - 0s 130us/step - loss: 0.0791

 620/1149 [==============>…] - ETA: 0s - loss: 1.0363Epoch 17/20

  20/1148 […] - ETA: 0s - loss: 0.0380
 800/1149 [==================>…] - ETA: 0s - loss: 0.1382
 400/1149 [========>…] - ETA: 0s - loss: 0.1501
 750/1148 [=================>…] - ETA: 0s - loss: 0.2306
 760/1149 [=================>…] - ETA: 0s - loss: 0.5271
 360/1148 [=======>…] - ETA: 0s - loss: 0.0717
1000/1149 [=========================>…] - ETA: 0s - loss: 1.0398
1148/1148 [==============================] - 0s 116us/step - loss: 0.2164
```

```
Epoch 5/5

  30/1148 […] - ETA: 0s - loss: 0.0992
1149/1149 [==============================] - 0s 140us/step - loss: 0.1403
Epoch 8/20

  20/1149 […] - ETA: 0s - loss: 0.0851
 700/1149 [=================>…] - ETA: 0s - loss: 0.1336
1149/1149 [==============================] - 0s 159us/step - loss: 1.0469
Epoch 3/20

  20/1149 […] - ETA: 0s - loss: 0.7817
1100/1149 [============================>..] - ETA: 0s - loss: 0.5606
1149/1149 [==============================] - 0s 145us/step - loss: 0.5595

 740/1148 [==================>…] - ETA: 0s - loss: 0.0768Epoch 15/20

  20/1149 […] - ETA: 0s - loss: 3.2190
 570/1148 [=============>…] - ETA: 0s - loss: 0.1833
 340/1149 [=======>…] - ETA: 0s - loss: 0.1025
1000/1149 [========================>…] - ETA: 0s - loss: 0.1315
 400/1149 [=========>…] - ETA: 0s - loss: 0.9405
1149/1149 [==============================] - 0s 157us/step - loss: 0.1254

1060/1148 [==========================>…] - ETA: 0s - loss: 0.0780Epoch 12/20

  20/1149 […] - ETA: 0s - loss: 0.0781
1080/1148 [===========================>..] - ETA: 0s - loss: 0.1728
 320/1149 [=======>…] - ETA: 0s - loss: 0.5990
1148/1148 [==============================] - 0s 151us/step - loss: 0.0788
Epoch 18/20

  20/1148 […] - ETA: 0s - loss: 0.0403
1148/1148 [==============================] - 0s 105us/step - loss: 0.1701

 620/1149 [===============>…] - ETA: 0s - loss: 0.1317
 740/1149 [=================>…] - ETA: 0s - loss: 0.8857
 320/1149 [=======>…] - ETA: 0s - loss: 0.1017
 660/1149 [================>…] - ETA: 0s - loss: 0.5509
 340/1148 [=======>…] - ETA: 0s - loss: 0.0839
1040/1149 [=========================>…] - ETA: 0s - loss: 0.1274
1140/1149 [=============================>.] - ETA: 0s - loss: 0.8857
1149/1149 [==============================] - 0s 141us/step - loss: 0.8820
Epoch 4/20

  20/1149 […] - ETA: 0s - loss: 0.6099
1149/1149 [==============================] - 0s 155us/step - loss: 0.1345
Epoch 9/20
```

```
  20/1149 […] - ETA: 0s - loss: 0.0829
 760/1149 [=================>…] - ETA: 0s - loss: 0.1123
1060/1149 [=========================>…] - ETA: 0s - loss: 0.5530
 680/1148 [===============>…] - ETA: 0s - loss: 0.0751
1149/1149 [==============================] - 0s 160us/step - loss: 0.5397
Epoch 16/20

  20/1149 […] - ETA: 0s - loss: 0.6824
 400/1149 [========>…] - ETA: 0s - loss: 0.7323
 440/1149 [=========>…] - ETA: 0s - loss: 0.1342
1149/1149 [==============================] - 0s 137us/step - loss: 0.1240
Epoch 13/20

  20/1149 […] - ETA: 0s - loss: 0.1583
1060/1148 [==========================>…] - ETA: 0s - loss: 0.0785
1148/1148 [==============================] - 0s 144us/step - loss: 0.0782
Epoch 19/20

  20/1148 […] - ETA: 0s - loss: 0.1263
 420/1149 [========>…] - ETA: 0s - loss: 0.5443
 720/1149 [=================>…] - ETA: 0s - loss: 0.6330
 800/1149 [==================>…] - ETA: 0s - loss: 0.1466Epoch 1/5

  30/1149 […] - ETA: 22s - loss: 1.0523
 420/1149 [========>…] - ETA: 0s - loss: 0.1095
 740/1149 [=================>…] - ETA: 0s - loss: 0.5401
 400/1148 [=========>…] - ETA: 0s - loss: 0.0824
1100/1149 [===========================>..] - ETA: 0s - loss: 0.6067
1149/1149 [==============================] - 0s 140us/step - loss: 0.5979
Epoch 5/20

  20/1149 […] - ETA: 0s - loss: 1.6367
1149/1149 [==============================] - 0s 137us/step - loss: 0.1309
Epoch 10/20

  20/1149 […] - ETA: 0s - loss: 0.1080
 780/1149 [==================>…] - ETA: 0s - loss: 0.1065
 300/1149 [======>…] - ETA: 1s - loss: 1.0639
 840/1148 [==================>…] - ETA: 0s - loss: 0.0791
1140/1149 [============================>.] - ETA: 0s - loss: 0.5221
1149/1149 [==============================] - 0s 137us/step - loss: 0.5211
Epoch 17/20

  20/1149 […] - ETA: 0s - loss: 0.5649
 460/1149 [==========>…] - ETA: 0s - loss: 0.4423
 420/1149 [========>…] - ETA: 0s - loss: 0.1167
1080/1149 [==========================>..] - ETA: 0s - loss: 0.1259
```

```
 570/1149 [=============>…] – ETA: 0s – loss: 1.0677
1148/1148 [==============================] – 0s 131us/step – loss: 0.0782
Epoch 20/20

  20/1148 […] – ETA: 0s – loss: 0.0468
1149/1149 [==============================] – 0s 154us/step – loss: 0.1224
Epoch 14/20

  20/1149 […] – ETA: 0s – loss: 0.0840
 460/1149 [==========>…] – ETA: 0s – loss: 0.5328
 900/1149 [======================>…] – ETA: 0s – loss: 0.3702
 780/1149 [===================>…] – ETA: 0s – loss: 0.1328
 780/1149 [===================>…] – ETA: 0s – loss: 1.2489
 380/1148 [=======>…] – ETA: 0s – loss: 0.0841
1149/1149 [==============================] – 0s 124us/step – loss: 0.3405

 480/1149 [==========>…] – ETA: 0s – loss: 0.1144Epoch 6/20

  20/1149 […] – ETA: 0s – loss: 0.2623
 860/1149 [====================>…] – ETA: 0s – loss: 0.5493
1149/1149 [==============================] – 0s 136us/step – loss: 0.1302
Epoch 11/20

  20/1149 […] – ETA: 0s – loss: 0.0789
1050/1149 [=========================>…] – ETA: 0s – loss: 1.2124
 760/1148 [==================>…] – ETA: 0s – loss: 0.0761
1149/1149 [==============================] – 0s 130us/step – loss: 0.5032

 880/1149 [====================>…] – ETA: 0s – loss: 0.1156Epoch 18/20

  20/1149 […] – ETA: 0s – loss: 0.2911
 380/1149 [=======>…] – ETA: 0s – loss: 0.2527
1149/1149 [==============================] – 1s 725us/step – loss: 1.1895
Epoch 2/5

  30/1149 […] – ETA: 0s – loss: 0.8938
 380/1149 [=======>…] – ETA: 0s – loss: 0.1135
1149/1149 [==============================] – 0s 127us/step – loss: 0.1208
Epoch 15/20

  20/1149 […] – ETA: 0s – loss: 0.1249
1148/1148 [==============================] – 0s 134us/step – loss: 0.0781

 440/1149 [==========>…] – ETA: 0s – loss: 0.4707
 840/1149 [===================>…] – ETA: 0s – loss: 0.2303
 330/1149 [=======>…] – ETA: 0s – loss: 1.0585
 680/1149 [================>…] – ETA: 0s – loss: 0.1281
1149/1149 [==============================] – 0s 125us/step – loss: 0.2215
```

```
 440/1149 [=========>…] - ETA: 0s - loss: 0.1202Epoch 7/20

  20/1149 […] - ETA: 0s - loss: 0.2283
 820/1149 [===================>…] - ETA: 0s - loss: 0.4523
1080/1149 [==========================>..] - ETA: 0s - loss: 1.1923
1040/1149 [=========================>…] - ETA: 0s - loss: 0.1263
1149/1149 [==============================] - 0s 108us/step - loss: 1.1724
Epoch 3/5

  30/1149 […] - ETA: 0s - loss: 1.5481
1149/1149 [==============================] - 0s 124us/step - loss: 0.4865
Epoch 19/20

  20/1149 […] - ETA: 0s - loss: 0.1586
 860/1149 [====================>…] - ETA: 0s - loss: 0.1223
 380/1149 [========>…] - ETA: 0s - loss: 0.1893
1149/1149 [==============================] - 0s 159us/step - loss: 0.1278
Epoch 12/20

  20/1149 […] - ETA: 0s - loss: 0.0720
1149/1149 [==============================] - 0s 127us/step - loss: 0.1196
Epoch 16/20

  20/1149 […] - ETA: 0s - loss: 0.2385
 480/1149 [==========>…] - ETA: 0s - loss: 1.1580
 340/1149 [=======>…] - ETA: 0s - loss: 0.3895
 800/1149 [===================>…] - ETA: 0s - loss: 0.2025
 360/1149 [========>…] - ETA: 0s - loss: 0.1001
 420/1149 [=========>…] - ETA: 0s - loss: 0.1352
 930/1149 [======================>…] - ETA: 0s - loss: 1.1676
 720/1149 [=================>…] - ETA: 0s - loss: 0.4568
1149/1149 [==============================] - 0s 136us/step - loss: 0.1877
Epoch 8/20

  20/1149 […] - ETA: 0s - loss: 0.1809Epoch 1/5

  30/1149 […] - ETA: 14s - loss: 0.5101
 700/1149 [=================>…] - ETA: 0s - loss: 0.1281Epoch 1/5

  30/1149 […] - ETA: 14s - loss: 1.3919
1149/1149 [==============================] - 0s 113us/step - loss: 1.1218
Epoch 4/5

  30/1149 […] - ETA: 0s - loss: 1.0727
 820/1149 [===================>…] - ETA: 0s - loss: 0.1210
1080/1149 [==========================>..] - ETA: 0s - loss: 0.4480
 330/1149 [=======>…] - ETA: 1s - loss: 1.0844
```

```
 420/1149 [=========>…] - ETA: 0s - loss: 0.1977
1149/1149 [==============================] - 0s 147us/step - loss: 0.4697


1120/1149 [============================>.] - ETA: 0s - loss: 0.1244
 360/1149 [========>…] - ETA: 0s - loss: 1.2490 Epoch 20/20


  20/1149 […] - ETA: 0s - loss: 0.5111
1149/1149 [==============================] - 0s 139us/step - loss: 0.1264
Epoch 13/20


  20/1149 […] - ETA: 0s - loss: 0.1517
 690/1149 [=================>…] - ETA: 0s - loss: 0.9923
1149/1149 [==============================] - 0s 133us/step - loss: 0.1179
Epoch 17/20


  20/1149 […] - ETA: 0s - loss: 0.1154
 820/1149 [====================>…] - ETA: 0s - loss: 0.1720
 570/1149 [=============>…] - ETA: 0s - loss: 1.0635
 720/1149 [==================>…] - ETA: 0s - loss: 1.0924
 380/1149 [========>…] - ETA: 0s - loss: 0.4481
 480/1149 [===========>…] - ETA: 0s - loss: 0.1098
1149/1149 [==============================] - 0s 88us/step - loss: 1.0404
Epoch 5/5


  30/1149 […] - ETA: 0s - loss: 1.8351
 380/1149 [========>…] - ETA: 0s - loss: 0.1050
1149/1149 [==============================] - 0s 128us/step - loss: 0.1721
Epoch 9/20


  20/1149 […] - ETA: 0s - loss: 0.0574
 810/1149 [====================>…] - ETA: 0s - loss: 1.1071
 930/1149 [=======================>…] - ETA: 0s - loss: 1.1291
 740/1149 [==================>…] - ETA: 0s - loss: 0.4247
 900/1149 [======================>…] - ETA: 0s - loss: 0.1320
 660/1149 [================>…] - ETA: 0s - loss: 1.0095
 780/1149 [===================>…] - ETA: 0s - loss: 0.1054
 320/1149 [=======>…] - ETA: 0s - loss: 0.1842
1100/1149 [============================>..] - ETA: 0s - loss: 0.4635
1149/1149 [==============================] - 0s 132us/step - loss: 0.1252


1110/1149 [============================>..] - ETA: 0s - loss: 1.1370
1050/1149 [=========================>…] - ETA: 0s - loss: 1.1830Epoch 14/20


  20/1149 […] - ETA: 0s - loss: 0.0688
1110/1149 [============================>..] - ETA: 0s - loss: 0.9584
1149/1149 [==============================] - 0s 143us/step - loss: 0.4555


1149/1149 [==============================] - 1s 524us/step - loss: 1.1323
```

```
Epoch 2/5

  30/1149 [...] - ETA: 0s - loss: 0.4925
1149/1149 [==============================] - 0s 97us/step - loss: 0.9548


1149/1149 [==============================] - 1s 541us/step - loss: 1.1749
Epoch 2/5

  30/1149 [...] - ETA: 0s - loss: 1.2551
1120/1149 [===========================>.] - ETA: 0s - loss: 0.1181
1149/1149 [==============================] - 0s 141us/step - loss: 0.1172
Epoch 18/20

  20/1149 [...] - ETA: 0s - loss: 0.1015
 620/1149 [==============>...] - ETA: 0s - loss: 0.1830
 360/1149 [========>...] - ETA: 0s - loss: 0.1084
 570/1149 [=============>...] - ETA: 0s - loss: 1.1315
 600/1149 [==============>...] - ETA: 0s - loss: 1.1186
 360/1149 [========>...] - ETA: 0s - loss: 0.1112
 980/1149 [=========================>...] - ETA: 0s - loss: 0.1614
 740/1149 [==================>...] - ETA: 0s - loss: 0.1248
1050/1149 [==========================>...] - ETA: 0s - loss: 1.0907
1149/1149 [==============================] - 0s 164us/step - loss: 0.1613
Epoch 10/20

  20/1149 [...] - ETA: 0s - loss: 0.0853
1149/1149 [==============================] - 0s 94us/step - loss: 1.1503
Epoch 3/5

  30/1149 [...] - ETA: 0s - loss: 1.1309
1149/1149 [==============================] - 0s 102us/step - loss: 1.0941
Epoch 3/5

  30/1149 [...] - ETA: 0s - loss: 1.3922
 700/1149 [=================>...] - ETA: 0s - loss: 0.1127
1120/1149 [===========================>.] - ETA: 0s - loss: 0.1248
1149/1149 [==============================] - 0s 142us/step - loss: 0.1247
Epoch 15/20

  20/1149 [...] - ETA: 0s - loss: 0.0695
 360/1149 [========>...] - ETA: 0s - loss: 0.1723
 570/1149 [=============>...] - ETA: 0s - loss: 1.0216
 510/1149 [============>...] - ETA: 0s - loss: 1.1656
1000/1149 [========================>...] - ETA: 0s - loss: 0.1110
1149/1149 [==============================] - 0s 153us/step - loss: 0.1160
Epoch 19/20

  20/1149 [...] - ETA: 0s - loss: 0.2291
```

```
 400/1149 [=========>…] - ETA: 0s - loss: 0.1038
 660/1149 [===============>…] - ETA: 0s - loss: 0.1521
1110/1149 [============================>..] - ETA: 0s - loss: 1.0603
1149/1149 [==============================] - 0s 94us/step - loss: 1.0824


1020/1149 [=========================>…] - ETA: 0s - loss: 0.9958Epoch 4/5

  30/1149 […] - ETA: 0s - loss: 0.3851
1149/1149 [==============================] - 0s 102us/step - loss: 0.9789
Epoch 4/5

  30/1149 […] - ETA: 0s - loss: 1.0064
 360/1149 [========>…] - ETA: 0s - loss: 0.1169
 780/1149 [==================>…] - ETA: 0s - loss: 0.1224
1040/1149 [=========================>…] - ETA: 0s - loss: 0.1605
 660/1149 [===============>…] - ETA: 0s - loss: 0.9890
1149/1149 [==============================] - 0s 150us/step - loss: 0.1544
Epoch 11/20

  20/1149 […] - ETA: 0s - loss: 0.1774
 630/1149 [==============>…] - ETA: 0s - loss: 0.7948
1149/1149 [==============================] - 0s 134us/step - loss: 0.1237
Epoch 16/20

  20/1149 […] - ETA: 0s - loss: 0.1252
 700/1149 [=================>…] - ETA: 0s - loss: 0.1206
1110/1149 [============================>..] - ETA: 0s - loss: 0.9571
1149/1149 [==============================] - 0s 99us/step - loss: 0.9476
Epoch 5/5

  30/1149 […] - ETA: 0s - loss: 1.0226
 480/1149 [==========>…] - ETA: 0s - loss: 0.1487
1050/1149 [=========================>…] - ETA: 0s - loss: 0.7656
1149/1149 [==============================] - 0s 107us/step - loss: 0.7444
Epoch 5/5

  30/1149 […] - ETA: 0s - loss: 0.4690
 500/1149 [===========>…] - ETA: 0s - loss: 0.1187
1149/1149 [==============================] - 0s 140us/step - loss: 0.1151
Epoch 20/20

  20/1149 […] - ETA: 0s - loss: 0.0255
 390/1149 [=========>…] - ETA: 0s - loss: 0.7367
 860/1149 [=====================>…] - ETA: 0s - loss: 0.1415
 900/1149 [=====================>…] - ETA: 0s - loss: 0.1145
 480/1149 [==========>…] - ETA: 0s - loss: 0.4516
 420/1149 [=========>…] - ETA: 0s - loss: 0.1049
1149/1149 [==============================] - 0s 128us/step - loss: 0.1492
```

```
Epoch 12/20

  20/1149 […] - ETA: 0s - loss: 0.1374
 840/1149 [===================>…] - ETA: 0s - loss: 0.7174
1149/1149 [============================] - 0s 118us/step - loss: 0.1235
Epoch 17/20

  20/1149 […] - ETA: 0s - loss: 0.0899
 960/1149 [======================>…] - ETA: 0s - loss: 0.4720
 800/1149 [==================>…] - ETA: 0s - loss: 0.1149
1149/1149 [============================] - 0s 118us/step - loss: 0.7403


1149/1149 [============================] - 0s 107us/step - loss: 0.4638

 360/1149 [========>…] - ETA: 0s - loss: 0.1415
 360/1149 [========>…] - ETA: 0s - loss: 0.1028
1149/1149 [============================] - 0s 136us/step - loss: 0.1136


 700/1149 [================>…] - ETA: 0s - loss: 0.1374
 640/1149 [==============>…] - ETA: 0s - loss: 0.1244
 960/1149 [======================>…] - ETA: 0s - loss: 0.1504
1020/1149 [========================>…] - ETA: 0s - loss: 0.1290
1149/1149 [============================] - 0s 177us/step - loss: 0.1463
Epoch 1/5

  30/1149 […] - ETA: 13s - loss: 1.2034Epoch 13/20

  20/1149 […] - ETA: 0s - loss: 0.0918
1149/1149 [============================] - 0s 176us/step - loss: 0.1234
Epoch 18/20

  20/1149 […] - ETA: 0s - loss: 0.1018Epoch 1/10

  30/1148 […] - ETA: 12s - loss: 0.4757Epoch 1/10

  30/1149 […] - ETA: 12s - loss: 1.3714
 240/1149 [=====>…] - ETA: 1s - loss: 1.2654
 260/1149 [=====>…] - ETA: 0s - loss: 0.1474
 360/1149 [=======>…] - ETA: 0s - loss: 0.1004
 450/1148 [=========>…] - ETA: 0s - loss: 0.3902
 560/1149 [============>…] - ETA: 0s - loss: 0.1301
 870/1149 [===================>…] - ETA: 0s - loss: 1.0941
 330/1149 [=======>…] - ETA: 0s - loss: 1.1628
 660/1149 [===============>…] - ETA: 0s - loss: 0.1067
1149/1149 [============================] - 0s 430us/step - loss: 1.0975
Epoch 2/5

  30/1149 […] - ETA: 0s - loss: 1.1161
```

```
 630/1148 [===============>…] - ETA: 0s - loss: 0.3707
 540/1149 [=============>…] - ETA: 0s - loss: 1.2941
 920/1149 [=======================>…] - ETA: 0s - loss: 0.1213
1040/1149 [===========================>…] - ETA: 0s - loss: 0.1237
 810/1149 [====================>…] - ETA: 0s - loss: 1.1101
1149/1149 [==============================] - 0s 159us/step - loss: 0.1441
Epoch 14/20

  20/1149 […] - ETA: 0s - loss: 0.1538
1149/1149 [==============================] - 0s 152us/step - loss: 0.1224
Epoch 19/20

  20/1149 […] - ETA: 0s - loss: 0.0822
 900/1149 [=====================>…] - ETA: 0s - loss: 1.2254
 900/1148 [=====================>…] - ETA: 0s - loss: 0.3670
1149/1149 [==============================] - 0s 76us/step - loss: 1.0687
Epoch 3/5

  30/1149 […] - ETA: 0s - loss: 0.7987
 360/1149 [========>…] - ETA: 0s - loss: 0.1281
1149/1149 [==============================] - 1s 471us/step - loss: 1.1887

 480/1149 [===========>…] - ETA: 0s - loss: 0.1116Epoch 2/10

  30/1149 […] - ETA: 0s - loss: 0.9640
1080/1148 [===========================>..] - ETA: 0s - loss: 0.3723
 720/1149 [=================>…] - ETA: 0s - loss: 1.0895
 720/1149 [=================>…] - ETA: 0s - loss: 0.1222
 880/1149 [====================>…] - ETA: 0s - loss: 0.1069
 420/1149 [=========>…] - ETA: 0s - loss: 1.2097
1148/1148 [==============================] - 1s 518us/step - loss: 0.3681

1149/1149 [==============================] - 0s 78us/step - loss: 0.9815
Epoch 2/10

  30/1148 […] - ETA: 0s - loss: 0.3772Epoch 4/5

  30/1149 […] - ETA: 0s - loss: 1.0379
1149/1149 [==============================] - 0s 126us/step - loss: 0.1222
Epoch 20/20

  20/1149 […] - ETA: 0s - loss: 0.0621
1120/1149 [===========================>.] - ETA: 0s - loss: 0.1427
1149/1149 [==============================] - 0s 142us/step - loss: 0.1418
Epoch 15/20

  20/1149 […] - ETA: 0s - loss: 0.0626
 870/1149 [====================>…] - ETA: 0s - loss: 1.1873
```

```
 660/1149 [=================>…] - ETA: 0s - loss: 0.7377
 420/1148 [=========>…] - ETA: 0s - loss: 0.3691
1149/1149 [==============================] - 0s 116us/step - loss: 1.1643
Epoch 3/10

  30/1149 […] - ETA: 0s - loss: 0.7232
 480/1149 [===========>…] - ETA: 0s - loss: 0.1060
 420/1149 [=========>…] - ETA: 0s - loss: 0.1135
1149/1149 [==============================] - 0s 88us/step - loss: 0.7745
Epoch 5/5

  30/1149 […] - ETA: 0s - loss: 0.5910
 870/1148 [=====================>…] - ETA: 0s - loss: 0.3355
 540/1149 [=============>…] - ETA: 0s - loss: 1.0534
 920/1149 [=======================>…] - ETA: 0s - loss: 0.1305
1148/1148 [==============================] - 0s 128us/step - loss: 0.3315
Epoch 3/10

  30/1148 […] - ETA: 0s - loss: 0.2884
 840/1149 [====================>…] - ETA: 0s - loss: 0.1322
 420/1149 [=========>…] - ETA: 0s - loss: 0.5523
1149/1149 [==============================] - 0s 116us/step - loss: 0.1221

 750/1149 [==================>…] - ETA: 0s - loss: 1.0615
1149/1149 [==============================] - 0s 128us/step - loss: 0.1401
Epoch 16/20

  20/1149 […] - ETA: 0s - loss: 0.3086
 630/1148 [===============>…] - ETA: 0s - loss: 0.2884
1050/1149 [==========================>…] - ETA: 0s - loss: 0.5108
1149/1149 [==============================] - 0s 127us/step - loss: 1.0545

1149/1149 [==============================] - 0s 103us/step - loss: 0.4988
Epoch 4/10

  30/1149 […] - ETA: 0s - loss: 1.0313
1148/1148 [==============================] - 0s 77us/step - loss: 0.2814
Epoch 4/10

  30/1148 […] - ETA: 0s - loss: 0.2087
 420/1149 [=========>…] - ETA: 0s - loss: 0.1266Epoch 1/10

  30/1149 […] - ETA: 16s - loss: 1.0844Epoch 1/10

  30/1149 […] - ETA: 16s - loss: 1.3375
 540/1149 [=============>…] - ETA: 0s - loss: 0.9107
 480/1148 [===========>…] - ETA: 0s - loss: 0.2408
 720/1149 [=================>…] - ETA: 0s - loss: 0.1385
```

```
 330/1149 [=======>…] - ETA: 1s - loss: 1.2105
 600/1149 [==============>…] - ETA: 0s - loss: 1.2238
1110/1149 [============================>..] - ETA: 0s - loss: 0.8139
1149/1149 [==============================] - 0s 100us/step - loss: 0.8094
Epoch 5/10

  30/1149 […] - ETA: 0s - loss: 0.3408
1050/1148 [==========================>…] - ETA: 0s - loss: 0.2192Epoch 1/10

  30/1149 […] - ETA: 17s - loss: 1.4846
1060/1149 [==========================>…] - ETA: 0s - loss: 0.1410
1148/1148 [==============================] - 0s 104us/step - loss: 0.2158
Epoch 5/10

  30/1148 […] - ETA: 0s - loss: 0.1757
1149/1149 [==============================] - 0s 150us/step - loss: 0.1381


1149/1149 [==============================] - 1s 473us/step - loss: 1.1775
Epoch 17/20

  20/1149 […] - ETA: 0s - loss: 0.1154Epoch 2/10

  30/1149 […] - ETA: 0s - loss: 0.6725
 840/1149 [====================>…] - ETA: 0s - loss: 1.0931
 540/1149 [=============>…] - ETA: 0s - loss: 0.6365
 210/1149 [====>…] - ETA: 2s - loss: 1.0208
1149/1149 [==============================] - 1s 505us/step - loss: 1.1334
Epoch 2/10

  30/1149 […] - ETA: 0s - loss: 0.7297
 540/1148 [=============>…] - ETA: 0s - loss: 0.1750
 380/1149 [========>…] - ETA: 0s - loss: 0.1246
 540/1149 [=============>…] - ETA: 0s - loss: 1.0894
1080/1149 [===========================>..] - ETA: 0s - loss: 0.5214
1149/1149 [==============================] - 0s 99us/step - loss: 0.5026
Epoch 6/10

  30/1149 […] - ETA: 0s - loss: 0.5343
 450/1149 [=========>…] - ETA: 0s - loss: 1.1915
1020/1148 [=========================>…] - ETA: 0s - loss: 0.1678
 630/1149 [==============>…] - ETA: 0s - loss: 1.1179
1148/1148 [==============================] - 0s 99us/step - loss: 0.1640

 740/1149 [==================>…] - ETA: 0s - loss: 0.1486Epoch 6/10

  30/1148 […] - ETA: 0s - loss: 0.1137
1110/1149 [===========================>..] - ETA: 0s - loss: 1.1408
1149/1149 [==============================] - 0s 96us/step - loss: 1.1525
```

```
Epoch 3/10

  30/1149 […] - ETA: 0s - loss: 1.4139
 570/1149 [=============>…] - ETA: 0s - loss: 0.3247
 720/1149 [=================>…] - ETA: 0s - loss: 1.1547
1149/1149 [==============================] - 0s 91us/step - loss: 1.1132
Epoch 3/10

  30/1149 […] - ETA: 0s - loss: 0.5153
1080/1149 [===========================>..] - ETA: 0s - loss: 0.1378
 510/1148 [============>…] - ETA: 0s - loss: 0.1510
1149/1149 [==============================] - 0s 148us/step - loss: 0.1364

 450/1149 [=========>…] - ETA: 0s - loss: 1.0426Epoch 18/20

  20/1149 […] - ETA: 0s - loss: 0.1608
1149/1149 [==============================] - 1s 588us/step - loss: 1.0992
Epoch 2/10

  30/1149 […] - ETA: 0s - loss: 2.2300
1080/1149 [==========================>..] - ETA: 0s - loss: 0.2813
1149/1149 [==============================] - 0s 100us/step - loss: 0.2758
Epoch 7/10

  30/1149 […] - ETA: 0s - loss: 0.1275
 480/1149 [==========>…] - ETA: 0s - loss: 1.1200
1080/1148 [===========================>..] - ETA: 0s - loss: 0.1440
1148/1148 [==============================] - 0s 99us/step - loss: 0.1406
Epoch 7/10

  30/1148 […] - ETA: 0s - loss: 0.1309
 960/1149 [========================>…] - ETA: 0s - loss: 1.0794
 420/1149 [========>…] - ETA: 0s - loss: 0.1080
 630/1149 [==============>…] - ETA: 0s - loss: 1.0290
1149/1149 [==============================] - 0s 114us/step - loss: 1.0539
Epoch 4/10

  30/1149 […] - ETA: 0s - loss: 1.0643
 540/1149 [============>…] - ETA: 0s - loss: 0.1713
 930/1149 [======================>…] - ETA: 0s - loss: 1.0822
 570/1148 [============>…] - ETA: 0s - loss: 0.1351
 800/1149 [==================>…] - ETA: 0s - loss: 0.1275
1149/1149 [==============================] - 0s 120us/step - loss: 1.0384
Epoch 4/10

  30/1149 […] - ETA: 0s - loss: 0.8694
1110/1149 [===========================>..] - ETA: 0s - loss: 1.0862
1149/1149 [==============================] - 0s 95us/step - loss: 1.0807
```

```
Epoch 3/10

  30/1149 […] - ETA: 0s - loss: 0.5836
 480/1149 [==========>…] - ETA: 0s - loss: 0.8455
1140/1149 [==========================>.] - ETA: 0s - loss: 0.1656
1149/1149 [============================] - 0s 93us/step - loss: 0.1732
Epoch 8/10

  30/1149 […] - ETA: 0s - loss: 0.1056
1148/1148 [============================] - 0s 86us/step - loss: 0.1300
Epoch 8/10

  30/1148 […] - ETA: 0s - loss: 0.1091
1149/1149 [============================] - 0s 130us/step - loss: 0.1339
Epoch 19/20

  20/1149 […] - ETA: 0s - loss: 0.1262
 390/1149 [========>…] - ETA: 0s - loss: 0.8001
 420/1149 [========>…] - ETA: 0s - loss: 0.9003
 810/1149 [===================>…] - ETA: 0s - loss: 0.8694
 720/1149 [================>…] - ETA: 0s - loss: 0.1585
 660/1148 [================>…] - ETA: 0s - loss: 0.1236
 400/1149 [========>…] - ETA: 0s - loss: 0.1231
 810/1149 [===================>…] - ETA: 0s - loss: 0.8577
1149/1149 [============================] - 0s 131us/step - loss: 0.8453

 840/1149 [===================>…] - ETA: 0s - loss: 0.9490Epoch 5/10

  30/1149 […] - ETA: 0s - loss: 0.4847
1149/1149 [============================] - 0s 85us/step - loss: 0.1477
Epoch 9/10

  30/1149 […] - ETA: 0s - loss: 0.1781
1148/1148 [============================] - 0s 91us/step - loss: 0.1238

 760/1149 [=================>…] - ETA: 0s - loss: 0.1413Epoch 9/10

  30/1148 […] - ETA: 0s - loss: 0.0721
1149/1149 [============================] - 0s 132us/step - loss: 0.8695
Epoch 5/10

  30/1149 […] - ETA: 0s - loss: 0.8878
 660/1149 [================>…] - ETA: 0s - loss: 0.6566
1140/1149 [==========================>.] - ETA: 0s - loss: 0.9855
1149/1149 [============================] - 0s 144us/step - loss: 1.0060

 600/1149 [==============>…] - ETA: 0s - loss: 0.1503Epoch 4/10
```

```
  30/1149 […] - ETA: 0s - loss: 1.8479
1149/1149 [==============================] - 0s 135us/step - loss: 0.1325


 630/1148 [==============>…] - ETA: 0s - loss: 0.1173Epoch 20/20


  20/1149 […] - ETA: 0s - loss: 0.0901
1149/1149 [==============================] - 0s 80us/step - loss: 0.5870
Epoch 6/10

  30/1149 […] - ETA: 0s - loss: 0.5360
 270/1149 [======>…] - ETA: 0s - loss: 0.6591
1149/1149 [==============================] - 0s 85us/step - loss: 0.1383
Epoch 10/10

  30/1149 […] - ETA: 0s - loss: 0.1416
1148/1148 [==============================] - 0s 84us/step - loss: 0.1191


 390/1149 [=========>…] - ETA: 0s - loss: 0.8083Epoch 10/10


  30/1148 […] - ETA: 0s - loss: 0.0609Epoch 1/15


  30/1148 […] - ETA: 15s - loss: 0.3357Epoch 1/15


  30/1149 […] - ETA: 14s - loss: 1.0534
 440/1149 [=========>…] - ETA: 0s - loss: 0.1454
 450/1149 [=========>…] - ETA: 0s - loss: 0.4772
 900/1149 [======================>…] - ETA: 0s - loss: 0.7192
 630/1149 [==============>…] - ETA: 0s - loss: 0.1601
1149/1149 [==============================] - 0s 114us/step - loss: 0.6577
Epoch 6/10


  30/1149 […] - ETA: 0s - loss: 0.4352
1080/1149 [===========================>..] - ETA: 0s - loss: 0.8280
 600/1148 [==============>…] - ETA: 0s - loss: 0.1116
 210/1149 [====>…] - ETA: 1s - loss: 1.2467
 150/1148 [==>…] - ETA: 3s - loss: 0.3341
1149/1149 [==============================] - 0s 100us/step - loss: 0.8277
Epoch 5/10


  30/1149 […] - ETA: 0s - loss: 0.9608
 800/1149 [==================>…] - ETA: 0s - loss: 0.1370
 990/1149 [========================>…] - ETA: 0s - loss: 0.4150
1149/1149 [==============================] - 0s 90us/step - loss: 0.1341


1149/1149 [==============================] - 0s 108us/step - loss: 0.3980
Epoch 7/10


  30/1149 […] - ETA: 0s - loss: 0.2781
```

```
1148/1148 [==============================] - 0s 89us/step - loss: 0.1151

 690/1149 [================>…] - ETA: 0s - loss: 0.4307
 660/1149 [===============>…] - ETA: 0s - loss: 0.6205
 420/1148 [========>…] - ETA: 0s - loss: 0.3416
 510/1149 [===========>…] - ETA: 0s - loss: 1.2912
1149/1149 [==============================] - 0s 139us/step - loss: 0.1313

1149/1149 [==============================] - 0s 81us/step - loss: 0.4688
Epoch 7/10

  30/1149 […] - ETA: 0s - loss: 0.3806
 630/1149 [==============>…] - ETA: 0s - loss: 0.3214
1110/1149 [===========================>..] - ETA: 0s - loss: 0.5769
1149/1149 [==============================] - 0s 92us/step - loss: 0.5650
Epoch 6/10

  30/1149 […] - ETA: 0s - loss: 0.3825
 750/1149 [=================>…] - ETA: 0s - loss: 1.1887
 840/1148 [====================>…] - ETA: 0s - loss: 0.3773
 570/1149 [============>…] - ETA: 0s - loss: 0.3843
1149/1149 [==============================] - 0s 91us/step - loss: 0.2986
Epoch 8/10

  30/1149 […] - ETA: 0s - loss: 0.3579
 720/1149 [================>…] - ETA: 0s - loss: 0.3696
1148/1148 [==============================] - 1s 543us/step - loss: 0.3672

 930/1149 [=======================>…] - ETA: 0s - loss: 1.1510Epoch 2/15

  30/1148 […] - ETA: 0s - loss: 0.4089
1110/1149 [===========================>..] - ETA: 0s - loss: 0.3305
1149/1149 [==============================] - 1s 546us/step - loss: 1.1912

 630/1149 [==============>…] - ETA: 0s - loss: 0.2606
1149/1149 [==============================] - 0s 97us/step - loss: 0.3309
Epoch 2/15

  30/1149 […] - ETA: 0s - loss: 1.2993Epoch 8/10

  30/1149 […] - ETA: 0s - loss: 0.1276
1149/1149 [==============================] - 0s 82us/step - loss: 0.3309
Epoch 7/10

  30/1149 […] - ETA: 0s - loss: 0.5259
 390/1148 [========>…] - ETA: 0s - loss: 0.3708
1149/1149 [==============================] - 0s 89us/step - loss: 0.2421
Epoch 9/10
```

```
  30/1149 […] - ETA: 0s - loss: 0.2344
 330/1149 [======>…] - ETA: 0s - loss: 1.0875
 570/1149 [============>…] - ETA: 0s - loss: 0.2836
 570/1149 [============>…] - ETA: 0s - loss: 0.2495
 750/1148 [=================>…] - ETA: 0s - loss: 0.3489
 540/1149 [============>…] - ETA: 0s - loss: 0.1944
 750/1149 [=================>…] - ETA: 0s - loss: 1.1865
1020/1149 [=======================>…] - ETA: 0s - loss: 0.2540
1080/1149 [==========================>..] - ETA: 0s - loss: 0.2200
1149/1149 [============================] - 0s 97us/step - loss: 0.2133


1149/1149 [============================] - 0s 105us/step - loss: 0.2440
Epoch 9/10

  30/1149 […] - ETA: 0s - loss: 0.1639Epoch 8/10

  30/1149 […] - ETA: 0s - loss: 0.2425
1110/1148 [==========================>.] - ETA: 0s - loss: 0.3258
1148/1148 [============================] - 0s 149us/step - loss: 0.3218
Epoch 3/15

  30/1148 […] - ETA: 0s - loss: 0.3359
 960/1149 [=======================>…] - ETA: 0s - loss: 0.1932
 990/1149 [=======================>…] - ETA: 0s - loss: 1.2024
1149/1149 [============================] - 0s 115us/step - loss: 0.2065

 510/1149 [===========>…] - ETA: 0s - loss: 0.1673
 480/1149 [==========>…] - ETA: 0s - loss: 0.2025Epoch 10/10

  30/1149 […] - ETA: 0s - loss: 0.2202
 450/1148 [=========>…] - ETA: 0s - loss: 0.2816
1149/1149 [============================] - 0s 174us/step - loss: 1.1909
Epoch 3/15

  30/1149 […] - ETA: 0s - loss: 1.6002
 900/1149 [=====================>…] - ETA: 0s - loss: 0.1653
 450/1149 [=========>…] - ETA: 0s - loss: 0.1736
 960/1149 [=======================>…] - ETA: 0s - loss: 0.2018
 930/1148 [=====================>…] - ETA: 0s - loss: 0.2596
 450/1149 [=========>…] - ETA: 0s - loss: 1.1750
1149/1149 [============================] - 0s 118us/step - loss: 0.1927
Epoch 10/10

  30/1149 […] - ETA: 0s - loss: 0.1670
1149/1149 [============================] - 0s 123us/step - loss: 0.1737
Epoch 9/10
```

```
   30/1149 [...] - ETA: 0s - loss: 0.0725
1148/1148 [==============================] - 0s 128us/step - loss: 0.2528
Epoch 4/15

   30/1148 [...] - ETA: 0s - loss: 0.1591
 960/1149 [=======================>...] - ETA: 0s - loss: 0.1912
 930/1149 [======================>...] - ETA: 0s - loss: 1.1439
1149/1149 [==============================] - 0s 113us/step - loss: 0.1848

 600/1149 [=============>...] - ETA: 0s - loss: 0.1945
 510/1149 [============>...] - ETA: 0s - loss: 0.1415
1149/1149 [==============================] - 0s 115us/step - loss: 1.1908
Epoch 4/15

   30/1149 [...] - ETA: 0s - loss: 0.8380
 270/1148 [======>...] - ETA: 0s - loss: 0.2059
1149/1149 [==============================] - 0s 89us/step - loss: 0.1662

 990/1149 [========================>...] - ETA: 0s - loss: 0.1531
1149/1149 [==============================] - 0s 105us/step - loss: 0.1596
Epoch 10/10

   30/1149 [...] - ETA: 0s - loss: 0.2479
 600/1149 [=============>...] - ETA: 0s - loss: 1.2943
 720/1148 [=================>...] - ETA: 0s - loss: 0.1968
1148/1148 [==============================] - 0s 124us/step - loss: 0.1846
Epoch 5/15

   30/1148 [...] - ETA: 0s - loss: 0.2824
1080/1149 [===========================>..] - ETA: 0s - loss: 1.1860
 630/1149 [==============>...] - ETA: 0s - loss: 0.1583
1149/1149 [==============================] - 0s 101us/step - loss: 1.1899
Epoch 5/15

   30/1149 [...] - ETA: 0s - loss: 2.5331
 630/1148 [==============>...] - ETA: 0s - loss: 0.1548
1149/1149 [==============================] - 0s 90us/step - loss: 0.1537

 510/1149 [============>...] - ETA: 0s - loss: 1.1768
1148/1148 [==============================] - 0s 90us/step - loss: 0.1561
Epoch 6/15

   30/1148 [...] - ETA: 0s - loss: 0.1402
1149/1149 [==============================] - 0s 92us/step - loss: 1.1813
Epoch 6/15

   30/1149 [...] - ETA: 0s - loss: 1.1870
 600/1148 [=============>...] - ETA: 0s - loss: 0.1533
```

```
 630/1149 [===============>…] - ETA: 0s - loss: 1.1142
1110/1148 [============================>.] - ETA: 0s - loss: 0.1438
1148/1148 [=============================] - 0s 107us/step - loss: 0.1439


 840/1149 [====================>…] - ETA: 0s - loss: 1.1466Epoch 7/15


  30/1148 […] - ETA: 0s - loss: 0.1472
 270/1148 [======>…] - ETA: 0s - loss: 0.1561
1050/1149 [==========================>…] - ETA: 0s - loss: 1.1263Epoch 1/15


  30/1149 […] - ETA: 18s - loss: 1.0431
1149/1149 [=============================] - 0s 178us/step - loss: 1.1277
Epoch 7/15


  30/1149 […] - ETA: 0s - loss: 0.9979
 570/1148 [=============>…] - ETA: 0s - loss: 0.1406Epoch 1/15


  30/1149 […] - ETA: 18s - loss: 1.4040
 300/1149 [======>…] - ETA: 1s - loss: 1.1200
 480/1149 [==========>…] - ETA: 0s - loss: 1.0813
1020/1148 [========================>…] - ETA: 0s - loss: 0.1359
 420/1149 [=========>…] - ETA: 0s - loss: 0.9828
 600/1149 [=============>…] - ETA: 0s - loss: 1.0974
1148/1148 [=============================] - 0s 167us/step - loss: 0.1343
Epoch 8/15


  30/1148 […] - ETA: 0s - loss: 0.1003
 930/1149 [=======================>…] - ETA: 0s - loss: 1.0129Epoch 1/15


  30/1149 […] - ETA: 18s - loss: 0.9434
1149/1149 [=============================] - 0s 108us/step - loss: 0.9893


 870/1149 [=====================>…] - ETA: 0s - loss: 1.0069Epoch 8/15


  30/1149 […] - ETA: 0s - loss: 0.4835
 900/1149 [=====================>…] - ETA: 0s - loss: 1.1864
 570/1148 [=============>…] - ETA: 0s - loss: 0.1313
1149/1149 [=============================] - 1s 543us/step - loss: 1.0963
Epoch 2/15


  30/1149 […] - ETA: 0s - loss: 2.1627
 360/1149 [========>…] - ETA: 1s - loss: 1.0387
 630/1149 [===============>…] - ETA: 0s - loss: 0.7999
1140/1148 [============================>.] - ETA: 0s - loss: 0.1264
1148/1148 [=============================] - 0s 93us/step - loss: 0.1262


1080/1149 [==========================>..] - ETA: 0s - loss: 1.1528Epoch 9/15
```

```
   30/1148 [...] - ETA: 0s - loss: 0.1727
  660/1149 [================>...] - ETA: 0s - loss: 1.1332
 1149/1149 [==============================] - 1s 637us/step - loss: 1.1327
Epoch 2/15

   30/1149 [...] - ETA: 0s - loss: 0.9899
 1149/1149 [==============================] - 0s 88us/step - loss: 0.7788
Epoch 9/15

   30/1149 [...] - ETA: 0s - loss: 1.0462
  750/1149 [==================>...] - ETA: 0s - loss: 1.0685
  570/1148 [=============>...] - ETA: 0s - loss: 0.1237
 1149/1149 [==============================] - 0s 84us/step - loss: 1.0658
Epoch 3/15


   30/1149 [...] - ETA: 0s - loss: 1.0220
  570/1149 [=============>...] - ETA: 0s - loss: 1.0847
 1140/1149 [============================>.] - ETA: 0s - loss: 1.1793
  630/1149 [===============>...] - ETA: 0s - loss: 0.6178
 1149/1149 [==============================] - 1s 584us/step - loss: 1.1783
Epoch 2/15


   30/1149 [...] - ETA: 0s - loss: 0.7709
 1080/1148 [===========================>..] - ETA: 0s - loss: 0.1209
 1148/1148 [==============================] - 0s 97us/step - loss: 0.1197
Epoch 10/15


   30/1148 [...] - ETA: 0s - loss: 0.1159
  570/1149 [=============>...] - ETA: 0s - loss: 1.0876
 1149/1149 [==============================] - 0s 89us/step - loss: 1.0949


 1149/1149 [==============================] - 0s 83us/step - loss: 0.5719
Epoch 10/15


   30/1149 [...] - ETA: 0s - loss: 0.6017Epoch 3/15


   30/1149 [...] - ETA: 0s - loss: 1.5010Epoch 1/20


   30/1148 [...] - ETA: 14s - loss: 0.3609
  330/1149 [=======>...] - ETA: 0s - loss: 1.2083
  600/1148 [=============>...] - ETA: 0s - loss: 0.1036
 1110/1149 [==========================>..] - ETA: 0s - loss: 0.9642
 1149/1149 [==============================] - 0s 102us/step - loss: 0.9763
Epoch 4/15


   30/1149 [...] - ETA: 0s - loss: 1.2805Epoch 1/20


   30/1149 [...] - ETA: 15s - loss: 1.5559
```

```
 600/1149 [==============>…] - ETA: 0s - loss: 0.4495
 420/1149 [=========>…] - ETA: 0s - loss: 1.0453
 390/1148 [=========>…] - ETA: 0s - loss: 0.3789
 870/1149 [=====================>…] - ETA: 0s - loss: 1.1958
1148/1148 [==============================] - 0s 86us/step - loss: 0.1138
Epoch 11/15

  30/1148 […] - ETA: 0s - loss: 0.1519
1149/1149 [==============================] - 0s 88us/step - loss: 0.4146


 570/1149 [=============>…] - ETA: 0s - loss: 1.0104
1149/1149 [==============================] - 0s 120us/step - loss: 1.1662
Epoch 11/15


  30/1149 […] - ETA: 0s - loss: 0.3221Epoch 3/15


  30/1149 […] - ETA: 0s - loss: 0.5823
 180/1149 [===>…] - ETA: 2s - loss: 1.3337
 990/1149 [========================>…] - ETA: 0s - loss: 0.9494
 690/1148 [=================>…] - ETA: 0s - loss: 0.3717
1149/1149 [==============================] - 0s 110us/step - loss: 0.9549
Epoch 4/15


  30/1149 […] - ETA: 0s - loss: 0.6267
 720/1148 [=================>…] - ETA: 0s - loss: 0.1120Epoch 1/20


  30/1149 […] - ETA: 16s - loss: 0.7126
1050/1149 [==========================>…] - ETA: 0s - loss: 0.8322
 510/1149 [============>…] - ETA: 0s - loss: 1.1051
 690/1149 [=================>…] - ETA: 0s - loss: 0.3302
 330/1149 [=======>…] - ETA: 1s - loss: 1.3258
1080/1148 [==========================>..] - ETA: 0s - loss: 0.3683
1149/1149 [==============================] - 0s 104us/step - loss: 0.7999


1148/1148 [==============================] - 0s 74us/step - loss: 0.1102
Epoch 5/15


  30/1149 […] - ETA: 0s - loss: 0.3956Epoch 12/15


  30/1148 […] - ETA: 0s - loss: 0.1202
1148/1148 [==============================] - 1s 491us/step - loss: 0.3693
Epoch 2/20


  30/1148 […] - ETA: 0s - loss: 0.3564
 570/1149 [=============>…] - ETA: 0s - loss: 0.7709
 300/1149 [======>…] - ETA: 1s - loss: 1.1741
1149/1149 [==============================] - 0s 86us/step - loss: 0.3195
Epoch 12/15
```

```
  30/1149 […] - ETA: 0s - loss: 0.2421
 960/1149 [=======================>…] - ETA: 0s - loss: 1.1115
 660/1149 [================>…] - ETA: 0s - loss: 1.2042
 540/1149 [=============>…] - ETA: 0s - loss: 0.6311
 600/1148 [=============>…] - ETA: 0s - loss: 0.1068
1149/1149 [==============================] - 0s 108us/step - loss: 1.1153
Epoch 4/15

  30/1149 […] - ETA: 0s - loss: 0.5438
 420/1148 [=========>…] - ETA: 0s - loss: 0.3684
1020/1149 [=========================>…] - ETA: 0s - loss: 0.6898
1149/1149 [==============================] - 0s 108us/step - loss: 0.6772
Epoch 5/15

  30/1149 […] - ETA: 0s - loss: 0.5685
 600/1149 [=============>…] - ETA: 0s - loss: 0.2754
 630/1149 [===============>…] - ETA: 0s - loss: 1.2137
1020/1149 [=========================>…] - ETA: 0s - loss: 1.2206
1050/1149 [==========================>…] - ETA: 0s - loss: 0.5741
1148/1148 [==============================] - 0s 91us/step - loss: 0.1074
Epoch 13/15

  30/1148 […] - ETA: 0s - loss: 0.0907
 600/1149 [=============>…] - ETA: 0s - loss: 1.0437
1149/1149 [==============================] - 0s 101us/step - loss: 0.5711

 750/1148 [==================>…] - ETA: 0s - loss: 0.3568Epoch 6/15

  30/1149 […] - ETA: 0s - loss: 0.6327
1149/1149 [==============================] - 1s 575us/step - loss: 1.1895
Epoch 2/20

  30/1149 […] - ETA: 0s - loss: 1.3197
1149/1149 [==============================] - 0s 90us/step - loss: 0.2677

 630/1149 [===============>…] - ETA: 0s - loss: 0.3929Epoch 13/15

  30/1149 […] - ETA: 0s - loss: 0.2929
1149/1149 [==============================] - 0s 86us/step - loss: 0.9661
Epoch 5/15

  30/1149 […] - ETA: 0s - loss: 1.1154
 630/1148 [===============>…] - ETA: 0s - loss: 0.1173
 810/1149 [==================>…] - ETA: 0s - loss: 1.1779
 690/1149 [=================>…] - ETA: 0s - loss: 0.3999
1080/1148 [===========================>..] - ETA: 0s - loss: 0.3358
 510/1149 [===========>…] - ETA: 0s - loss: 1.1289
```

```
1148/1148 [==============================] - 0s 150us/step - loss: 0.3330

1110/1149 [============================>..] - ETA: 0s - loss: 0.3813Epoch 3/20

  30/1148 […] - ETA: 0s - loss: 0.2725
 510/1149 [===========>…] - ETA: 0s - loss: 0.2448
1149/1149 [==============================] - 0s 96us/step - loss: 0.3806
Epoch 6/15

  30/1149 […] - ETA: 0s - loss: 0.2163
1148/1148 [==============================] - 0s 84us/step - loss: 0.1048
Epoch 14/15

  30/1148 […] - ETA: 0s - loss: 0.0937
1149/1149 [==============================] - 0s 80us/step - loss: 0.3676
Epoch 7/15

  30/1149 […] - ETA: 0s - loss: 0.4929
 720/1149 [================>…] - ETA: 0s - loss: 0.7610
 960/1149 [========================>…] - ETA: 0s - loss: 1.2186
 840/1149 [====================>…] - ETA: 0s - loss: 1.1995
1020/1149 [==========================>…] - ETA: 0s - loss: 0.2398
 420/1148 [========>…] - ETA: 0s - loss: 0.2834
 630/1149 [==============>…] - ETA: 0s - loss: 0.2447
1149/1149 [==============================] - 0s 84us/step - loss: 0.6961

1149/1149 [==============================] - 0s 105us/step - loss: 0.2361
Epoch 6/15

  30/1149 […] - ETA: 0s - loss: 0.4508Epoch 14/15

  30/1149 […] - ETA: 0s - loss: 0.1443
 660/1148 [================>…] - ETA: 0s - loss: 0.0939
 630/1149 [==============>…] - ETA: 0s - loss: 0.2361
1149/1149 [==============================] - 1s 634us/step - loss: 1.1752
Epoch 2/20

  30/1149 […] - ETA: 0s - loss: 1.2880
1149/1149 [==============================] - 0s 130us/step - loss: 1.1696
Epoch 3/20

  30/1149 […] - ETA: 0s - loss: 1.5011
 840/1148 [====================>…] - ETA: 0s - loss: 0.2871
1149/1149 [==============================] - 0s 94us/step - loss: 0.2285
Epoch 7/15

  30/1149 […] - ETA: 0s - loss: 0.1273
1148/1148 [==============================] - 0s 89us/step - loss: 0.1027
```

```
 570/1149 [============>…] - ETA: 0s - loss: 0.4726Epoch 15/15

  30/1148 […] - ETA: 0s - loss: 0.1219
 690/1149 [================>…] - ETA: 0s - loss: 0.2042
1080/1149 [==========================>..] - ETA: 0s - loss: 0.2470
 270/1149 [======>…] - ETA: 0s - loss: 1.2053
1149/1149 [==============================] - 0s 98us/step - loss: 0.2435
Epoch 8/15

  30/1149 […] - ETA: 0s - loss: 0.2120
 450/1149 [=========>…] - ETA: 0s - loss: 1.0726
1148/1148 [==============================] - 0s 135us/step - loss: 0.2824

1149/1149 [==============================] - 0s 78us/step - loss: 0.2143
Epoch 15/15

  30/1149 […] - ETA: 0s - loss: 0.1575Epoch 4/20

  30/1148 […] - ETA: 0s - loss: 0.3023
 570/1149 [============>…] - ETA: 0s - loss: 0.1756
1149/1149 [==============================] - 0s 89us/step - loss: 0.3976

 600/1148 [=============>…] - ETA: 0s - loss: 0.0927Epoch 7/15

  30/1149 […] - ETA: 0s - loss: 0.4354
 510/1149 [===========>…] - ETA: 0s - loss: 1.2035
 480/1149 [==========>…] - ETA: 0s - loss: 0.1663
 960/1149 [========================>…] - ETA: 0s - loss: 1.0714
 540/1149 [============>…] - ETA: 0s - loss: 0.2088
 450/1148 [=========>…] - ETA: 0s - loss: 0.2455
1149/1149 [==============================] - 0s 113us/step - loss: 1.0937
Epoch 4/20

  30/1149 […] - ETA: 0s - loss: 1.1885
1080/1149 [==========================>..] - ETA: 0s - loss: 0.1641
 420/1149 [========>…] - ETA: 0s - loss: 0.2768
1080/1148 [==========================>..] - ETA: 0s - loss: 0.1008
1149/1149 [==============================] - 0s 104us/step - loss: 0.1642

1140/1149 [=============================>.] - ETA: 0s - loss: 1.1455
1148/1148 [==============================] - 0s 104us/step - loss: 0.1010

1149/1149 [==============================] - 0s 139us/step - loss: 1.1488

 990/1149 [=========================>…] - ETA: 0s - loss: 0.1822Epoch 8/15

  30/1149 […] - ETA: 0s - loss: 0.2138Epoch 3/20
```

```
  30/1149 […] - ETA: 0s - loss: 1.1125
1149/1149 [==============================] - 0s 109us/step - loss: 0.1839
Epoch 9/15

  30/1149 […] - ETA: 0s - loss: 0.1332
1050/1148 [==========================>…] - ETA: 0s - loss: 0.2246
 990/1149 [========================>…] - ETA: 0s - loss: 0.2001
 570/1149 [============>…] - ETA: 0s - loss: 0.8223
 840/1149 [===================>…] - ETA: 0s - loss: 0.2335
1148/1148 [==============================] - 0s 105us/step - loss: 0.2224
Epoch 5/20

  30/1148 […] - ETA: 0s - loss: 0.1906
1149/1149 [==============================] - 0s 112us/step - loss: 0.1974

 510/1149 [============>…] - ETA: 0s - loss: 0.1545
 630/1149 [===============>…] - ETA: 0s - loss: 1.1103
1149/1149 [==============================] - 0s 123us/step - loss: 0.2172
Epoch 8/15

  30/1149 […] - ETA: 0s - loss: 0.1405
 660/1149 [================>…] - ETA: 0s - loss: 0.1568
1149/1149 [==============================] - 0s 90us/step - loss: 0.9265
Epoch 5/20

  30/1149 […] - ETA: 0s - loss: 0.7711
 660/1148 [================>…] - ETA: 0s - loss: 0.1822
1149/1149 [==============================] - 0s 84us/step - loss: 1.0456
Epoch 4/20

  30/1149 […] - ETA: 0s - loss: 0.6652
1050/1149 [==========================>…] - ETA: 0s - loss: 0.1460
1149/1149 [==============================] - 0s 100us/step - loss: 0.1440
Epoch 9/15

  30/1149 […] - ETA: 0s - loss: 0.1282
 660/1149 [================>…] - ETA: 0s - loss: 0.1624
1149/1149 [==============================] - 0s 93us/step - loss: 0.1588
Epoch 10/15

  30/1149 […] - ETA: 0s - loss: 0.1153
 600/1149 [=============>…] - ETA: 0s - loss: 0.7394
1148/1148 [==============================] - 0s 96us/step - loss: 0.1740

 630/1149 [===============>…] - ETA: 0s - loss: 0.7815Epoch 6/20

  30/1148 […] - ETA: 0s - loss: 0.2172
```

```
 450/1149 [==========>…] - ETA: 0s - loss: 0.1190
1110/1149 [===========================>..] - ETA: 0s - loss: 0.1567
 420/1149 [=========>…] - ETA: 0s - loss: 0.1603
 990/1149 [========================>…] - ETA: 0s - loss: 0.6855
1149/1149 [==============================] - 0s 103us/step - loss: 0.1569
Epoch 9/15

  30/1149 […] - ETA: 0s - loss: 0.1101
1020/1149 [========================>…] - ETA: 0s - loss: 0.8311
 420/1148 [=========>…] - ETA: 0s - loss: 0.1524
 960/1149 [=======================>…] - ETA: 0s - loss: 0.1443
1149/1149 [==============================] - 0s 124us/step - loss: 0.6780
Epoch 6/20

  30/1149 […] - ETA: 0s - loss: 0.3797
1149/1149 [==============================] - 0s 120us/step - loss: 0.8155

1050/1149 [=========================>…] - ETA: 0s - loss: 0.1481Epoch 5/20

  30/1149 […] - ETA: 0s - loss: 0.3493
1149/1149 [==============================] - 0s 112us/step - loss: 0.1372
Epoch 10/15

  30/1149 […] - ETA: 0s - loss: 0.1484
 300/1149 [======>…] - ETA: 0s - loss: 0.1483
1149/1149 [==============================] - 0s 104us/step - loss: 0.1491
Epoch 11/15

  30/1149 […] - ETA: 0s - loss: 0.0932
 690/1148 [=================>…] - ETA: 0s - loss: 0.1655
 420/1149 [=========>…] - ETA: 0s - loss: 0.4905
 420/1149 [=========>…] - ETA: 0s - loss: 0.5586
 600/1149 [=============>…] - ETA: 0s - loss: 0.1268
 690/1149 [=================>…] - ETA: 0s - loss: 0.1465
 630/1149 [===============>…] - ETA: 0s - loss: 0.1338
1080/1148 [==========================>..] - ETA: 0s - loss: 0.1464
1148/1148 [==============================] - 0s 148us/step - loss: 0.1483
Epoch 7/20

  30/1148 […] - ETA: 0s - loss: 0.1087
 930/1149 [=======================>…] - ETA: 0s - loss: 0.4261
 960/1149 [=======================>…] - ETA: 0s - loss: 0.5391
1140/1149 [=============================>.] - ETA: 0s - loss: 0.1342
1149/1149 [==============================] - 0s 137us/step - loss: 0.1424

1149/1149 [==============================] - 0s 96us/step - loss: 0.1335
Epoch 10/15
```

```
  30/1149 […] - ETA: 0s - loss: 0.0780
1110/1149 [===========================>..] - ETA: 0s - loss: 0.1362
1149/1149 [==============================] - 0s 114us/step - loss: 0.4119
Epoch 11/15

  30/1149 […] - ETA: 0s - loss: 0.0734Epoch 7/20

  30/1149 […] - ETA: 0s - loss: 0.1268
1149/1149 [==============================] - 0s 109us/step - loss: 0.5251


1149/1149 [==============================] - 0s 100us/step - loss: 0.1441
Epoch 6/20

  30/1149 […] - ETA: 0s - loss: 0.2293Epoch 12/15

  30/1149 […] - ETA: 0s - loss: 0.1560
 660/1148 [================>…] - ETA: 0s - loss: 0.1404
 540/1149 [=============>…] - ETA: 0s - loss: 0.1474
 660/1149 [================>…] - ETA: 0s - loss: 0.2828
 390/1149 [=========>…] - ETA: 0s - loss: 0.1268
 630/1149 [===============>…] - ETA: 0s - loss: 0.3481
1148/1148 [==============================] - 0s 88us/step - loss: 0.1365
Epoch 8/20

  30/1148 […] - ETA: 0s - loss: 0.0933
 420/1149 [=========>…] - ETA: 0s - loss: 0.1115
1080/1149 [===========================>..] - ETA: 0s - loss: 0.1391
1149/1149 [==============================] - 0s 91us/step - loss: 0.2363

1149/1149 [==============================] - 0s 98us/step - loss: 0.1383

 780/1149 [===================>…] - ETA: 0s - loss: 0.1270Epoch 11/15

  30/1149 […] - ETA: 0s - loss: 0.1355Epoch 8/20

  30/1149 […] - ETA: 0s - loss: 0.1482
1140/1149 [============================>.] - ETA: 0s - loss: 0.3116
 450/1148 [=========>…] - ETA: 0s - loss: 0.1401
1020/1149 [=========================>…] - ETA: 0s - loss: 0.1357
1149/1149 [==============================] - 0s 103us/step - loss: 0.3116
Epoch 7/20

  30/1149 […] - ETA: 0s - loss: 0.2454
1149/1149 [==============================] - 0s 119us/step - loss: 0.1297
Epoch 12/15

  30/1149 […] - ETA: 0s - loss: 0.1222
1149/1149 [==============================] - 0s 112us/step - loss: 0.1414
```

```
Epoch 13/15

  30/1149 […] - ETA: 0s - loss: 0.1305
 630/1149 [===============>…] - ETA: 0s - loss: 0.1233
 420/1149 [=========>…] - ETA: 0s - loss: 0.1712
 810/1148 [====================>…] - ETA: 0s - loss: 0.1340
 390/1149 [=========>…] - ETA: 0s - loss: 0.2148
 660/1149 [================>…] - ETA: 0s - loss: 0.1215
 660/1149 [================>…] - ETA: 0s - loss: 0.1204
1148/1148 [==============================] - 0s 124us/step - loss: 0.1298


1149/1149 [==============================] - 0s 91us/step - loss: 0.1356
Epoch 9/20

  30/1148 […] - ETA: 0s - loss: 0.2593
 870/1149 [=====================>…] - ETA: 0s - loss: 0.1608Epoch 12/15

  30/1149 […] - ETA: 0s - loss: 0.0634
 870/1149 [=====================>…] - ETA: 0s - loss: 0.2216
1149/1149 [==============================] - 0s 86us/step - loss: 0.1270
Epoch 13/15

  30/1149 […] - ETA: 0s - loss: 0.0681
1149/1149 [==============================] - 0s 100us/step - loss: 0.1392

 330/1148 [=======>…] - ETA: 0s - loss: 0.1324Epoch 14/15

  30/1149 […] - ETA: 0s - loss: 0.1610
1149/1149 [==============================] - 0s 138us/step - loss: 0.1594

 330/1149 [=======>…] - ETA: 0s - loss: 0.1312Epoch 9/20

  30/1149 […] - ETA: 0s - loss: 0.1031
1149/1149 [==============================] - 0s 134us/step - loss: 0.2076
Epoch 8/20

  30/1149 […] - ETA: 0s - loss: 0.1805
 390/1149 [=========>…] - ETA: 0s - loss: 0.1110
 990/1148 [=======================>…] - ETA: 0s - loss: 0.1276
 630/1149 [==============>…] - ETA: 0s - loss: 0.1445
 900/1149 [=====================>…] - ETA: 0s - loss: 0.1259
 570/1149 [=============>…] - ETA: 0s - loss: 0.1434
1148/1148 [==============================] - 0s 105us/step - loss: 0.1245
Epoch 10/20

  30/1148 […] - ETA: 0s - loss: 0.0981
 660/1149 [================>…] - ETA: 0s - loss: 0.1662
 900/1149 [=====================>…] - ETA: 0s - loss: 0.1154
```

```
1149/1149 [==============================] - 0s 114us/step - loss: 0.1335
Epoch 13/15

  30/1149 […] - ETA: 0s - loss: 0.1070
1149/1149 [==============================] - 0s 89us/step - loss: 0.1367
Epoch 15/15

  30/1149 […] - ETA: 0s - loss: 0.0989
1149/1149 [==============================] - 0s 118us/step - loss: 0.1255


1110/1149 [==========================>..] - ETA: 0s - loss: 0.1355Epoch 14/15

  30/1149 […] - ETA: 0s - loss: 0.0956
1149/1149 [==============================] - 0s 82us/step - loss: 0.1670
Epoch 9/20

  30/1149 […] - ETA: 0s - loss: 0.1730
1149/1149 [==============================] - 0s 98us/step - loss: 0.1355
Epoch 10/20

  30/1149 […] - ETA: 0s - loss: 0.0451
 720/1148 [=================>…] - ETA: 0s - loss: 0.1210
 480/1149 [===========>…] - ETA: 0s - loss: 0.1312
 510/1149 [===========>…] - ETA: 0s - loss: 0.1251
 600/1149 [=============>…] - ETA: 0s - loss: 0.1241
1148/1148 [==============================] - 0s 83us/step - loss: 0.1199
Epoch 11/20

  30/1148 […] - ETA: 0s - loss: 0.0977
 420/1149 [=========>…] - ETA: 0s - loss: 0.1760
 510/1149 [===========>…] - ETA: 0s - loss: 0.1255
 960/1149 [========================>…] - ETA: 0s - loss: 0.1300
1020/1149 [========================>…] - ETA: 0s - loss: 0.1363
1140/1149 [============================>.] - ETA: 0s - loss: 0.1241
1149/1149 [==============================] - 0s 113us/step - loss: 0.1322


1149/1149 [==============================] - 0s 105us/step - loss: 0.1346
Epoch 14/15

  30/1149 […] - ETA: 0s - loss: 0.1868
1149/1149 [==============================] - 0s 94us/step - loss: 0.1237


 540/1148 [=============>…] - ETA: 0s - loss: 0.1150Epoch 15/15

  30/1149 […] - ETA: 0s - loss: 0.1347
 900/1149 [======================>…] - ETA: 0s - loss: 0.1581
 990/1149 [=======================>…] - ETA: 0s - loss: 0.1323
1149/1149 [==============================] - 0s 106us/step - loss: 0.1282
```

```
Epoch 11/20

  30/1149 […] - ETA: 0s - loss: 0.0991
1149/1149 [==============================] - 0s 117us/step - loss: 0.1530
Epoch 10/20

  30/1149 […] - ETA: 0s - loss: 0.1604
 540/1149 [============>…] - ETA: 0s - loss: 0.1147
 540/1149 [============>…] - ETA: 0s - loss: 0.1116
1050/1148 [==========================>…] - ETA: 0s - loss: 0.1188
1148/1148 [==============================] - 0s 104us/step - loss: 0.1161
Epoch 12/20

  30/1148 […] - ETA: 0s - loss: 0.0789
 570/1149 [============>…] - ETA: 0s - loss: 0.1338
 570/1149 [============>…] - ETA: 0s - loss: 0.1587Epoch 1/20

  30/1149 […] - ETA: 17s - loss: 0.3366
1080/1149 [==========================>..] - ETA: 0s - loss: 0.1303
1110/1149 [===========================>..] - ETA: 0s - loss: 0.1232
1149/1149 [==============================] - 0s 98us/step - loss: 0.1314

1149/1149 [==============================] - 0s 96us/step - loss: 0.1221
Epoch 15/15

  30/1149 […] - ETA: 0s - loss: 0.0973
 510/1148 [===========>…] - ETA: 0s - loss: 0.1191
1140/1149 [============================>.] - ETA: 0s - loss: 0.1247Epoch 1/20

  30/1149 […] - ETA: 15s - loss: 0.8886
1149/1149 [==============================] - 0s 98us/step - loss: 0.1249

1140/1149 [============================>.] - ETA: 0s - loss: 0.1450Epoch 12/20

  30/1149 […] - ETA: 0s - loss: 0.0955
1149/1149 [==============================] - 0s 93us/step - loss: 0.1461

 420/1149 [========>…] - ETA: 0s - loss: 1.2009 Epoch 11/20

  30/1149 […] - ETA: 0s - loss: 0.1150
 690/1149 [================>…] - ETA: 0s - loss: 0.1379
 990/1148 [========================>…] - ETA: 0s - loss: 0.1163
 690/1149 [================>…] - ETA: 0s - loss: 0.1250
 870/1149 [=====================>…] - ETA: 0s - loss: 1.1705
 630/1149 [==============>…] - ETA: 0s - loss: 0.1425
1148/1148 [==============================] - 0s 110us/step - loss: 0.1127
Epoch 13/20
```

```
   30/1148 [...] - ETA: 0s - loss: 0.1421
1149/1149 [==============================] - 0s 85us/step - loss: 0.1302


1149/1149 [==============================] - 1s 527us/step - loss: 1.1347
Epoch 2/20

   30/1149 [...] - ETA: 0s - loss: 2.4740
1149/1149 [==============================] - 0s 79us/step - loss: 0.1232
Epoch 13/20

   30/1149 [...] - ETA: 0s - loss: 0.0960
  120/1149 [==>...] - ETA: 4s - loss: 0.8534
1149/1149 [==============================] - 0s 87us/step - loss: 0.1423
Epoch 12/20

   30/1149 [...] - ETA: 0s - loss: 0.4492
  630/1148 [===============>...] - ETA: 0s - loss: 0.1128
  240/1149 [=====>...] - ETA: 1s - loss: 0.9496
  540/1149 [=============>...] - ETA: 0s - loss: 1.1975
  630/1149 [===============>...] - ETA: 0s - loss: 0.1254
  660/1149 [================>...] - ETA: 0s - loss: 0.1401
1148/1148 [==============================] - 0s 92us/step - loss: 0.1095
Epoch 14/20

   30/1148 [...] - ETA: 0s - loss: 0.1258
  630/1149 [===============>...] - ETA: 0s - loss: 0.9875
  810/1149 [====================>...] - ETA: 0s - loss: 1.1500
1149/1149 [==============================] - 0s 87us/step - loss: 0.1212
Epoch 14/20

   30/1149 [...] - ETA: 0s - loss: 0.1216
1149/1149 [==============================] - 0s 83us/step - loss: 0.1400
Epoch 13/20

   30/1149 [...] - ETA: 0s - loss: 0.1098
  750/1148 [==================>...] - ETA: 0s - loss: 0.1101
1149/1149 [==============================] - 0s 120us/step - loss: 1.1116
Epoch 3/20

   30/1149 [...] - ETA: 0s - loss: 1.2026
1020/1149 [=========================>...] - ETA: 0s - loss: 1.0727
  570/1149 [=============>...] - ETA: 0s - loss: 0.1340
1149/1149 [==============================] - 1s 567us/step - loss: 1.1000
Epoch 2/20

   30/1149 [...] - ETA: 0s - loss: 0.4097
  540/1149 [=============>...] - ETA: 0s - loss: 0.1413
1148/1148 [==============================] - 0s 78us/step - loss: 0.1069
```

```
Epoch 15/20

  30/1148 […] - ETA: 0s - loss: 0.0912
 450/1149 [=========>…] - ETA: 0s - loss: 1.0515
1149/1149 [============================] - 0s 89us/step - loss: 0.1198
Epoch 15/20

  30/1149 […] - ETA: 0s - loss: 0.1048
 570/1149 [===========>…] - ETA: 0s - loss: 1.1081
1050/1149 [=========================>…] - ETA: 0s - loss: 0.1400
 630/1148 [==============>…] - ETA: 0s - loss: 0.0977
1149/1149 [============================] - 0s 99us/step - loss: 0.1377
Epoch 14/20

  30/1149 […] - ETA: 0s - loss: 0.1496
1020/1149 [========================>…] - ETA: 0s - loss: 1.0601
1149/1149 [============================] - 0s 100us/step - loss: 1.0309
Epoch 4/20

  30/1149 […] - ETA: 0s - loss: 0.5419
 690/1149 [================>…] - ETA: 0s - loss: 0.1179
1148/1148 [============================] - 0s 85us/step - loss: 0.1046

1020/1149 [========================>…] - ETA: 0s - loss: 1.0674Epoch 16/20

  30/1148 […] - ETA: 0s - loss: 0.0822
 570/1149 [===========>…] - ETA: 0s - loss: 0.1227
1149/1149 [============================] - 0s 115us/step - loss: 1.0819
Epoch 3/20

  30/1149 […] - ETA: 0s - loss: 1.8781
1149/1149 [============================] - 0s 84us/step - loss: 0.1190
Epoch 16/20

  30/1149 […] - ETA: 0s - loss: 0.0736
 480/1149 [==========>…] - ETA: 0s - loss: 0.9087
 570/1148 [============>…] - ETA: 0s - loss: 0.0984
1149/1149 [============================] - 0s 92us/step - loss: 0.1359
Epoch 15/20

  30/1149 […] - ETA: 0s - loss: 0.1106
 480/1149 [==========>…] - ETA: 0s - loss: 1.0545
 540/1149 [============>…] - ETA: 0s - loss: 0.1152
 930/1149 [======================>…] - ETA: 0s - loss: 0.8526Epoch 1/5

   5/1148 […] - ETA: 1:27 - loss: 0.2383
1140/1148 [===========================>.] - ETA: 0s - loss: 0.1026
1148/1148 [============================] - 0s 92us/step - loss: 0.1023
```

```
Epoch 17/20

  30/1148 [...] - ETA: 0s - loss: 0.0907
1149/1149 [==============================] - 0s 111us/step - loss: 0.8566
Epoch 5/20

  30/1149 [...] - ETA: 0s - loss: 1.5755
 630/1149 [===============>...] - ETA: 0s - loss: 0.1273
 900/1149 [=====================>...] - ETA: 0s - loss: 1.0180
1140/1149 [=============================>.] - ETA: 0s - loss: 0.1184
1149/1149 [==============================] - 0s 92us/step - loss: 0.1180
Epoch 17/20

  30/1149 [...] - ETA: 0s - loss: 0.0881
1149/1149 [==============================] - 0s 105us/step - loss: 1.0203

  75/1148 [>...] - ETA: 6s - loss: 0.3795   Epoch 4/20

  30/1149 [...] - ETA: 0s - loss: 1.2360
 690/1148 [=================>...] - ETA: 0s - loss: 0.0858
1149/1149 [==============================] - 0s 82us/step - loss: 0.1338
Epoch 16/20

  30/1149 [...] - ETA: 0s - loss: 0.1187
 570/1149 [=============>...] - ETA: 0s - loss: 0.7088
 660/1149 [================>...] - ETA: 0s - loss: 0.1228
 150/1148 [==>...] - ETA: 3s - loss: 0.3699
1148/1148 [==============================] - 0s 83us/step - loss: 0.1006

 630/1149 [===============>...] - ETA: 0s - loss: 0.9804Epoch 18/20

  30/1148 [...] - ETA: 0s - loss: 0.0703
 630/1149 [===============>...] - ETA: 0s - loss: 0.1471
1149/1149 [==============================] - 0s 88us/step - loss: 0.6316
Epoch 6/20

  30/1149 [...] - ETA: 0s - loss: 0.8484
1149/1149 [==============================] - 0s 85us/step - loss: 0.1174
Epoch 18/20

  30/1149 [...] - ETA: 0s - loss: 0.1033
1149/1149 [==============================] - 0s 87us/step - loss: 0.8810
Epoch 5/20

  30/1149 [...] - ETA: 0s - loss: 0.9961
 240/1148 [=====>...] - ETA: 2s - loss: 0.3637
 660/1148 [================>...] - ETA: 0s - loss: 0.0948Epoch 1/5
```

```
   5/1149 […] - ETA: 1:27 - loss: 2.0158
1149/1149 [==============================] - 0s 88us/step - loss: 0.1328
Epoch 17/20

  30/1149 […] - ETA: 0s - loss: 0.2077
 780/1149 [==================>…] - ETA: 0s - loss: 0.4775
 750/1149 [=================>…] - ETA: 0s - loss: 0.1054
1148/1148 [==============================] - 0s 86us/step - loss: 0.0991
Epoch 19/20

  30/1148 […] - ETA: 0s - loss: 0.0737
 660/1149 [===============>…] - ETA: 0s - loss: 0.7609
1149/1149 [==============================] - 0s 76us/step - loss: 0.4257
Epoch 7/20

  30/1149 […] - ETA: 0s - loss: 0.2997
 305/1148 [======>…] - ETA: 1s - loss: 0.3389
 660/1149 [===============>…] - ETA: 0s - loss: 0.1287
  25/1149 […] - ETA: 19s - loss: 1.1755
1149/1149 [==============================] - 0s 72us/step - loss: 0.1166
Epoch 19/20

  30/1149 […] - ETA: 0s - loss: 0.0979
1149/1149 [==============================] - 0s 78us/step - loss: 0.6908
Epoch 6/20

  30/1149 […] - ETA: 0s - loss: 0.5729
 690/1148 [================>…] - ETA: 0s - loss: 0.1001
 570/1149 [=============>…] - ETA: 0s - loss: 0.3314
 395/1148 [=========>…] - ETA: 1s - loss: 0.3318
1149/1149 [==============================] - 0s 88us/step - loss: 0.1312
Epoch 18/20

  30/1149 […] - ETA: 0s - loss: 0.2252
  65/1149 [>…] - ETA: 8s - loss: 1.5267
 660/1149 [===============>…] - ETA: 0s - loss: 0.1107
1148/1148 [==============================] - 0s 77us/step - loss: 0.0976
Epoch 20/20

  30/1148 […] - ETA: 0s - loss: 0.1114
 690/1149 [===============>…] - ETA: 0s - loss: 0.5029
1149/1149 [==============================] - 0s 86us/step - loss: 0.2831
Epoch 8/20

  30/1149 […] - ETA: 0s - loss: 0.3741
 470/1148 [==========>…] - ETA: 1s - loss: 0.3250
1149/1149 [==============================] - 0s 79us/step - loss: 0.1165
```

```
 720/1149 [================>…] - ETA: 0s - loss: 0.1451Epoch 20/20

  30/1149 […] - ETA: 0s - loss: 0.1740
 105/1149 [=>…] - ETA: 5s - loss: 1.7159
1149/1149 [==============================] - 0s 76us/step - loss: 0.5135
Epoch 7/20

  30/1149 […] - ETA: 0s - loss: 0.2512
 600/1148 [=============>…] - ETA: 0s - loss: 0.0953
 750/1149 [=================>…] - ETA: 0s - loss: 0.2034
1149/1149 [==============================] - 0s 81us/step - loss: 0.1298
Epoch 19/20

  30/1149 […] - ETA: 0s - loss: 0.0956
 570/1148 [=============>…] - ETA: 0s - loss: 0.3268
 660/1149 [================>…] - ETA: 0s - loss: 0.1031
 150/1149 [==>…] - ETA: 3s - loss: 1.4272
 660/1149 [================>…] - ETA: 0s - loss: 0.3761
1149/1149 [==============================] - 0s 77us/step - loss: 0.2065

1148/1148 [==============================] - 0s 91us/step - loss: 0.0965
Epoch 9/20

  30/1149 […] - ETA: 0s - loss: 0.1834
 630/1149 [==============>…] - ETA: 0s - loss: 0.1430
1149/1149 [==============================] - 0s 84us/step - loss: 0.1157

 640/1148 [==============>…] - ETA: 0s - loss: 0.3215
 205/1149 [====>…] - ETA: 2s - loss: 1.4426
1149/1149 [==============================] - 0s 90us/step - loss: 0.3701
Epoch 8/20

  30/1149 […] - ETA: 0s - loss: 0.3552
 630/1149 [==============>…] - ETA: 0s - loss: 0.1615Epoch 1/5

   5/1149 […] - ETA: 2:15 - loss: 1.3032
1149/1149 [==============================] - 0s 86us/step - loss: 0.1294
Epoch 20/20

  30/1149 […] - ETA: 0s - loss: 0.1883
 715/1148 [================>…] - ETA: 0s - loss: 0.3170
 305/1149 [======>…] - ETA: 1s - loss: 1.3339
 660/1149 [================>…] - ETA: 0s - loss: 0.2724
1149/1149 [==============================] - 0s 84us/step - loss: 0.1801
Epoch 10/20

  30/1149 […] - ETA: 0s - loss: 0.1276
  30/1149 […] - ETA: 24s - loss: 1.1501
```

```
 660/1149 [================>…] - ETA: 0s - loss: 0.1299
 795/1148 [===================>…] - ETA: 0s - loss: 0.3058
 400/1149 [=========>…] - ETA: 1s - loss: 1.2980
1149/1149 [==============================] - 0s 85us/step - loss: 0.2723
Epoch 9/20

  30/1149 [………] - ETA: 0s - loss: 0.1215
 720/1149 [================>…] - ETA: 0s - loss: 0.1553
1149/1149 [==============================] - 0s 80us/step - loss: 0.1284

  70/1149 [>…] - ETA: 10s - loss: 1.4515
 900/1148 [======================>…] - ETA: 0s - loss: 0.2996
1149/1149 [==============================] - 0s 77us/step - loss: 0.1695

 485/1149 [==========>…] - ETA: 1s - loss: 1.2263Epoch 11/20

  30/1149 [………] - ETA: 0s - loss: 0.1617
 720/1149 [================>…] - ETA: 0s - loss: 0.2375
 130/1149 [==>…] - ETA: 5s - loss: 1.5320
1030/1148 [=========================>…] - ETA: 0s - loss: 0.2924
1149/1149 [==============================] - 0s 79us/step - loss: 0.2183
Epoch 10/20

  30/1149 [………] - ETA: 0s - loss: 0.1398
 625/1149 [==============>…] - ETA: 0s - loss: 1.1235
 600/1149 [==============>…] - ETA: 0s - loss: 0.1823
 195/1149 [====>…] - ETA: 3s - loss: 1.2106
1148/1148 [==============================] - 1s 917us/step - loss: 0.2794
Epoch 2/5

   5/1148 [………] - ETA: 0s - loss: 0.3506
1149/1149 [==============================] - 0s 84us/step - loss: 0.1621

 600/1149 [==============>…] - ETA: 0s - loss: 0.1983Epoch 12/20

  30/1149 [………] - ETA: 0s - loss: 0.0842
 735/1149 [=================>…] - ETA: 0s - loss: 1.1016
 315/1149 [=======>…] - ETA: 2s - loss: 1.2214
 150/1148 [==>…] - ETA: 0s - loss: 0.1811
1149/1149 [==============================] - 0s 91us/step - loss: 0.1828
Epoch 11/20

  30/1149 [………] - ETA: 0s - loss: 0.1296
 660/1149 [================>…] - ETA: 0s - loss: 0.1615
 825/1149 [===================>…] - ETA: 0s - loss: 1.0604
 415/1149 [=========>…] - ETA: 1s - loss: 1.2304
 280/1148 [======>…] - ETA: 0s - loss: 0.1634
1149/1149 [==============================] - 0s 85us/step - loss: 0.1560
```

```
Epoch 13/20

  30/1149 […] - ETA: 0s - loss: 0.1738
 570/1149 [=============>…] - ETA: 0s - loss: 0.1505
 890/1149 [=====================>…] - ETA: 0s - loss: 1.1266
 520/1149 [============>…] - ETA: 1s - loss: 1.2257
 365/1148 [========>…] - ETA: 0s - loss: 0.1658
 630/1149 [==============>…] - ETA: 0s - loss: 0.1499
1020/1149 [========================>…] - ETA: 0s - loss: 0.1679
1005/1149 [========================>…] - ETA: 0s - loss: 1.1053
1149/1149 [==============================] - 0s 110us/step - loss: 0.1640
Epoch 12/20

  30/1149 […] - ETA: 0s - loss: 0.0671
 655/1149 [================>…] - ETA: 0s - loss: 1.1703
 450/1148 [==========>…] - ETA: 0s - loss: 0.1615
1140/1149 [============================>.] - ETA: 0s - loss: 0.1486
1149/1149 [==============================] - 0s 94us/step - loss: 0.1492
Epoch 14/20

  30/1149 […] - ETA: 0s - loss: 0.1575
1125/1149 [============================>.] - ETA: 0s - loss: 1.1231
1149/1149 [==============================] - 1s 976us/step - loss: 1.1094
Epoch 2/5

   5/1149 […] - ETA: 0s - loss: 0.8871
 570/1149 [=============>…] - ETA: 0s - loss: 0.1522
 765/1149 [==================>…] - ETA: 0s - loss: 1.1688
 550/1148 [=============>…] - ETA: 0s - loss: 0.1640
 510/1149 [============>…] - ETA: 0s - loss: 0.1586
1149/1149 [==============================] - 0s 83us/step - loss: 0.1509
Epoch 13/20

  30/1149 […] - ETA: 0s - loss: 0.0940
 110/1149 [=>…] - ETA: 0s - loss: 0.7178
 870/1149 [====================>…] - ETA: 0s - loss: 1.1888
 635/1148 [==============>…] - ETA: 0s - loss: 0.1638
1110/1149 [===========================>..] - ETA: 0s - loss: 0.1441
1149/1149 [==============================] - 0s 95us/step - loss: 0.1433
Epoch 15/20

  30/1149 […] - ETA: 0s - loss: 0.0740Epoch 1/5

   5/1149 […] - ETA: 59s - loss: 0.3363
 750/1149 [==================>…] - ETA: 0s - loss: 0.1386
 210/1149 [====>…] - ETA: 0s - loss: 0.7026
 990/1149 [========================>…] - ETA: 0s - loss: 1.1545
 735/1148 [==================>…] - ETA: 0s - loss: 0.1629
```

```
1149/1149 [==============================] - 0s 78us/step - loss: 0.1421
Epoch 14/20

  30/1149 […] - ETA: 0s - loss: 0.0866
  40/1149 [>…] - ETA: 8s - loss: 0.8377
 600/1149 [=============>…] - ETA: 0s - loss: 0.1445
 345/1149 [========>…] - ETA: 0s - loss: 0.6997
1100/1149 [===========================>..] - ETA: 0s - loss: 1.1246
 870/1148 [====================>…] - ETA: 0s - loss: 0.1546
1149/1149 [==============================] - 1s 1ms/step - loss: 1.1121
Epoch 1/10

   5/1148 […] - ETA: 1:06 - loss: 0.2293Epoch 2/5

   5/1149 […] - ETA: 0s - loss: 0.3906
 480/1149 [===========>…] - ETA: 0s - loss: 0.1502
1149/1149 [==============================] - 0s 92us/step - loss: 0.1391

  90/1149 [=>…] - ETA: 4s - loss: 0.8119Epoch 16/20

  30/1149 […] - ETA: 0s - loss: 0.1129
 475/1149 [===========>…] - ETA: 0s - loss: 0.7717
1005/1148 [=========================>…] - ETA: 0s - loss: 0.1586
 120/1149 [==>…] - ETA: 0s - loss: 0.6879
1050/1149 [=========================>…] - ETA: 0s - loss: 0.1372
  35/1148 […] - ETA: 11s - loss: 0.4302
 170/1149 [===>…] - ETA: 2s - loss: 1.2808
 720/1149 [=================>…] - ETA: 0s - loss: 0.1316
1149/1149 [==============================] - 0s 99us/step - loss: 0.1382
Epoch 15/20

  30/1149 […] - ETA: 0s - loss: 0.1074
 610/1149 [==============>…] - ETA: 0s - loss: 0.7349
1148/1148 [==============================] - 1s 451us/step - loss: 0.1560
Epoch 3/5

   5/1148 […] - ETA: 0s - loss: 0.1818
 250/1149 [=====>…] - ETA: 0s - loss: 0.7590
 265/1149 [=====>…] - ETA: 1s - loss: 1.2726
1140/1149 [===========================>.] - ETA: 0s - loss: 0.1356
 630/1149 [==============>…] - ETA: 0s - loss: 0.1368
  90/1148 [=>…] - ETA: 4s - loss: 0.3760
1149/1149 [==============================] - 0s 96us/step - loss: 0.1361
Epoch 17/20

  30/1149 […] - ETA: 0s - loss: 0.1130
 745/1149 [==================>…] - ETA: 0s - loss: 0.7136Epoch 1/5
```

```
   5/1149 […] - ETA: 1:14 - loss: 1.1370
 130/1148 [==>…] - ETA: 0s - loss: 0.1253
 385/1149 [========>…] - ETA: 0s - loss: 0.6926
1149/1149 [==============================] - 0s 84us/step - loss: 0.1345
Epoch 16/20

  30/1149 […] - ETA: 0s - loss: 0.0814
 350/1149 [=======>…] - ETA: 1s - loss: 1.1455
 145/1148 [==>…] - ETA: 3s - loss: 0.3572
 875/1149 [===================>…] - ETA: 0s - loss: 0.6806
 570/1149 [============>…] - ETA: 0s - loss: 0.1313
  25/1149 […] - ETA: 17s - loss: 1.2733
 225/1148 [====>…] - ETA: 0s - loss: 0.1173
 510/1149 [===========>…] - ETA: 0s - loss: 0.8402
 540/1149 [============>…] - ETA: 0s - loss: 0.1242
1149/1149 [==============================] - 0s 84us/step - loss: 0.1344

 455/1149 [=========>…] - ETA: 0s - loss: 1.1741Epoch 18/20

  30/1149 […] - ETA: 0s - loss: 0.1142
 215/1148 [====>…] - ETA: 2s - loss: 0.3607
1000/1149 [=========================>…] - ETA: 0s - loss: 0.7172
  80/1149 [=>…] - ETA: 5s - loss: 1.4182
 330/1148 [=======>…] - ETA: 0s - loss: 0.1222
 635/1149 [==============>…] - ETA: 0s - loss: 0.8069
 575/1149 [=============>…] - ETA: 0s - loss: 1.1411
1080/1149 [===========================>..] - ETA: 0s - loss: 0.1366
 690/1149 [================>…] - ETA: 0s - loss: 0.1470
1149/1149 [==============================] - 0s 98us/step - loss: 0.1313

 280/1148 [======>…] - ETA: 1s - loss: 0.3561Epoch 17/20

  30/1149 […] - ETA: 0s - loss: 0.1243
1115/1149 [============================>.] - ETA: 0s - loss: 0.6860
1149/1149 [==============================] - 0s 413us/step - loss: 0.6796
Epoch 3/5

   5/1149 […] - ETA: 0s - loss: 0.3478
 115/1149 [==>…] - ETA: 4s - loss: 1.2429
 455/1148 [=========>…] - ETA: 0s - loss: 0.1312
 750/1149 [=================>…] - ETA: 0s - loss: 0.7607
1149/1149 [==============================] - 0s 82us/step - loss: 0.1334
Epoch 19/20

  30/1149 […] - ETA: 0s - loss: 0.1134
 690/1149 [================>…] - ETA: 0s - loss: 1.1427
 350/1148 [=======>…] - ETA: 1s - loss: 0.3458
 690/1149 [================>…] - ETA: 0s - loss: 0.1336
```

```
 125/1149 [==>…] - ETA: 0s - loss: 0.4041
 140/1149 [==>…] - ETA: 3s - loss: 1.1310
 575/1148 [==============>…] - ETA: 0s - loss: 0.1286
 890/1149 [=====================>…] - ETA: 0s - loss: 0.7106
1149/1149 [==============================] - 0s 76us/step - loss: 0.1289


 690/1149 [=================>…] - ETA: 0s - loss: 0.1318Epoch 18/20


  30/1149 […] - ETA: 0s - loss: 0.0688
 755/1149 [=================>…] - ETA: 0s - loss: 1.1485
 415/1148 [=========>…] - ETA: 1s - loss: 0.3344
 255/1149 [=====>…] - ETA: 0s - loss: 0.4359
 165/1149 [===>…] - ETA: 3s - loss: 1.1999
1149/1149 [==============================] - 0s 75us/step - loss: 0.1323
Epoch 20/20


  30/1149 […] - ETA: 0s - loss: 0.1353
 705/1148 [=================>…] - ETA: 0s - loss: 0.1229
1025/1149 [=========================>…] - ETA: 0s - loss: 0.6814
 660/1149 [===============>…] - ETA: 0s - loss: 0.1174
 800/1149 [==================>…] - ETA: 0s - loss: 1.1811
 490/1148 [==========>…] - ETA: 0s - loss: 0.3342
 385/1149 [========>…] - ETA: 0s - loss: 0.4103
 720/1149 [================>…] - ETA: 0s - loss: 0.1133
1149/1149 [==============================] - 0s 84us/step - loss: 0.1276


 815/1148 [===================>…] - ETA: 0s - loss: 0.1196Epoch 19/20


  30/1149 […] - ETA: 0s - loss: 0.1438
1145/1149 [=============================>.] - ETA: 0s - loss: 0.6511
1149/1149 [==============================] - 0s 401us/step - loss: 0.6493


 180/1149 [===>…] - ETA: 3s - loss: 1.3411Epoch 3/5


   5/1149 […] - ETA: 0s - loss: 0.9846
 905/1149 [=====================>…] - ETA: 0s - loss: 1.1426
1149/1149 [==============================] - 0s 72us/step - loss: 0.1319


 600/1148 [==============>…] - ETA: 0s - loss: 0.3130
 475/1149 [==========>…] - ETA: 0s - loss: 0.3708
 930/1148 [======================>…] - ETA: 0s - loss: 0.1188
 720/1149 [================>…] - ETA: 0s - loss: 0.1303
  95/1149 [=>…] - ETA: 0s - loss: 0.3899
1015/1149 [========================>…] - ETA: 0s - loss: 1.1160
 740/1148 [=================>…] - ETA: 0s - loss: 0.2984
 220/1149 [====>…] - ETA: 3s - loss: 1.2461
1149/1149 [==============================] - 0s 76us/step - loss: 0.1251
Epoch 20/20
```

```
  30/1149 […] – ETA: 0s – loss: 0.0828
 595/1149 [==============>…] – ETA: 0s – loss: 0.3540
1035/1148 [==========================>…] – ETA: 0s – loss: 0.1220
 200/1149 [====>…] – ETA: 0s – loss: 0.3669
1105/1149 [============================>..] – ETA: 0s – loss: 1.1020
 845/1148 [=====================>…] – ETA: 0s – loss: 0.2890
 365/1149 [========>…] – ETA: 1s – loss: 1.1891
 690/1149 [================>…] – ETA: 0s – loss: 0.1199
 715/1149 [================>…] – ETA: 0s – loss: 0.3582
1148/1148 [==============================] – 1s 444us/step – loss: 0.1208
Epoch 4/5

   5/1148 […] – ETA: 0s – loss: 0.1039
1149/1149 [==============================] – 1s 839us/step – loss: 1.0878
Epoch 2/5

   5/1149 […] – ETA: 0s – loss: 0.3472
 325/1149 [=======>…] – ETA: 0s – loss: 0.3305
 495/1149 [===========>…] – ETA: 1s – loss: 1.1563
1149/1149 [==============================] – 0s 85us/step – loss: 0.1232

 930/1148 [=======================>…] – ETA: 0s – loss: 0.2839
 830/1149 [====================>…] – ETA: 0s – loss: 0.3403
 140/1148 [==>…] – ETA: 0s – loss: 0.0922
 450/1149 [=========>…] – ETA: 0s – loss: 0.4113
  55/1149 [>…] – ETA: 1s – loss: 0.9796
 650/1149 [===============>…] – ETA: 0s – loss: 1.1071
 995/1148 [=========================>…] – ETA: 0s – loss: 0.2793
 955/1149 [=======================>…] – ETA: 0s – loss: 0.3273
 260/1148 [=====>…] – ETA: 0s – loss: 0.1199
 575/1149 [==============>…] – ETA: 0s – loss: 0.3751
 180/1149 [===>…] – ETA: 0s – loss: 0.8409
 760/1149 [=================>…] – ETA: 0s – loss: 1.1255
1135/1148 [============================>.] – ETA: 0s – loss: 0.2674
1148/1148 [==============================] – 1s 909us/step – loss: 0.2663
Epoch 2/10

   5/1148 […] – ETA: 0s – loss: 0.2371
1070/1149 [==========================>…] – ETA: 0s – loss: 0.3248
 370/1148 [=======>…] – ETA: 0s – loss: 0.1196
 695/1149 [================>…] – ETA: 0s – loss: 0.3425
 315/1149 [=======>…] – ETA: 0s – loss: 0.7837
 885/1149 [=====================>…] – ETA: 0s – loss: 1.1177
1149/1149 [==============================] – 1s 439us/step – loss: 0.3223
Epoch 4/5

   5/1149 […] – ETA: 0s – loss: 0.3022
```

```
 140/1148 [==>…] - ETA: 0s - loss: 0.2083
 475/1148 [==========>…] - ETA: 0s - loss: 0.1156
 795/1149 [==================>…] - ETA: 0s - loss: 0.3235
 445/1149 [==========>…] - ETA: 0s - loss: 0.7878
 990/1149 [======================>…] - ETA: 0s - loss: 1.0907
 115/1149 [==>…] - ETA: 0s - loss: 0.1899
 235/1148 [=====>…] - ETA: 0s - loss: 0.1747
 575/1148 [=============>…] - ETA: 0s - loss: 0.1165
 900/1149 [=====================>…] - ETA: 0s - loss: 0.3130
 575/1149 [=============>…] - ETA: 0s - loss: 0.8117
1090/1149 [==========================>..] - ETA: 0s - loss: 1.0541
 240/1149 [=====>…] - ETA: 0s - loss: 0.2282
 345/1148 [=======>…] - ETA: 0s - loss: 0.1627
 665/1148 [===============>…] - ETA: 0s - loss: 0.1129
1149/1149 [=============================] - 1s 975us/step - loss: 1.0501
Epoch 2/5

   5/1149 […] - ETA: 0s - loss: 0.2258
1005/1149 [========================>…] - ETA: 0s - loss: 0.2972
 675/1149 [===============>…] - ETA: 0s - loss: 0.7897
 340/1149 [=======>…] - ETA: 0s - loss: 0.1952
 440/1148 [==========>…] - ETA: 0s - loss: 0.1640
 780/1148 [==================>…] - ETA: 0s - loss: 0.1134
 110/1149 [=>…] - ETA: 0s - loss: 0.5218
1105/1149 [==========================>..] - ETA: 0s - loss: 0.2894
 780/1149 [==================>…] - ETA: 0s - loss: 0.7932
 450/1149 [==========>…] - ETA: 0s - loss: 0.1934
1149/1149 [=============================] - 1s 467us/step - loss: 0.2880
Epoch 4/5

   5/1149 […] - ETA: 0s - loss: 0.2677
 535/1148 [============>…] - ETA: 0s - loss: 0.1606
 910/1148 [=====================>…] - ETA: 0s - loss: 0.1065
 215/1149 [====>…] - ETA: 0s - loss: 0.6510
 885/1149 [=====================>…] - ETA: 0s - loss: 0.7861
 545/1149 [============>…] - ETA: 0s - loss: 0.1887
 100/1149 [=>…] - ETA: 0s - loss: 0.1986
 625/1148 [==============>…] - ETA: 0s - loss: 0.1600
1035/1148 [=========================>…] - ETA: 0s - loss: 0.1066Epoch 1/10

   5/1149 […] - ETA: 1:04 - loss: 2.3141
 320/1149 [=======>…] - ETA: 0s - loss: 0.7532
 995/1149 [========================>…] - ETA: 0s - loss: 0.7717
 645/1149 [===============>…] - ETA: 0s - loss: 0.2052
 230/1149 [=====>…] - ETA: 0s - loss: 0.1836
 755/1148 [==================>…] - ETA: 0s - loss: 0.1520
1140/1148 [============================>.] - ETA: 0s - loss: 0.1042
1148/1148 [=============================] - 1s 450us/step - loss: 0.1039
```

```
Epoch 5/5

   5/1148 […] - ETA: 0s - loss: 0.0515
 445/1149 [=========>…] - ETA: 0s - loss: 0.8740
1110/1149 [==========================>..] - ETA: 0s - loss: 0.7485
  35/1149 […] - ETA: 10s - loss: 0.9986
 750/1149 [=================>…] - ETA: 0s - loss: 0.1933
1149/1149 [=============================] - 1s 471us/step - loss: 0.7465

 355/1149 [========>…] - ETA: 0s - loss: 0.1958Epoch 3/5

   5/1149 […] - ETA: 0s - loss: 0.4948
 900/1148 [=====================>…] - ETA: 0s - loss: 0.1509
 115/1148 [==>…] - ETA: 0s - loss: 0.0983
 560/1149 [=============>…] - ETA: 0s - loss: 0.8893
  95/1149 [=>…] - ETA: 4s - loss: 1.0913 Epoch 1/10

   5/1149 […] - ETA: 58s - loss: 2.2534
 870/1149 [=====================>…] - ETA: 0s - loss: 0.1872
 470/1149 [==========>…] - ETA: 0s - loss: 0.1887
 125/1149 [==>…] - ETA: 0s - loss: 0.3679
1020/1148 [=========================>…] - ETA: 0s - loss: 0.1477
 230/1148 [=====>…] - ETA: 0s - loss: 0.0937
 670/1149 [===============>…] - ETA: 0s - loss: 0.8411
 155/1149 [===>…] - ETA: 2s - loss: 1.3446
  70/1149 [>…] - ETA: 4s - loss: 1.4978
1005/1149 [=========================>…] - ETA: 0s - loss: 0.1812
 560/1149 [=============>…] - ETA: 0s - loss: 0.1862
 260/1149 [=====>…] - ETA: 0s - loss: 0.3532
1130/1148 [===========================>.] - ETA: 0s - loss: 0.1432
1148/1148 [=============================] - 1s 454us/step - loss: 0.1443
Epoch 3/10

   5/1148 […] - ETA: 0s - loss: 0.0592
 335/1148 [=======>…] - ETA: 0s - loss: 0.0901
 790/1149 [==================>…] - ETA: 0s - loss: 0.8053
 225/1149 [====>…] - ETA: 2s - loss: 1.3983
 155/1149 [===>…] - ETA: 2s - loss: 1.1927
1145/1149 [============================>.] - ETA: 0s - loss: 0.1748
 675/1149 [===============>…] - ETA: 0s - loss: 0.1904
1149/1149 [=============================] - 1s 447us/step - loss: 0.1743
Epoch 5/5

   5/1149 […] - ETA: 0s - loss: 0.0922
 375/1149 [=======>…] - ETA: 0s - loss: 0.4068
 120/1148 [==>…] - ETA: 0s - loss: 0.1072
 455/1148 [=========>…] - ETA: 0s - loss: 0.1021
 915/1149 [=====================>…] - ETA: 0s - loss: 0.7763
```

```
 320/1149 [=======>…] – ETA: 1s – loss: 1.4031
 225/1149 [====>…] – ETA: 1s – loss: 1.3130
 780/1149 [==================>…] – ETA: 0s – loss: 0.1901
 480/1149 [===========>…] – ETA: 0s – loss: 0.4046
 125/1149 [==>…] – ETA: 0s – loss: 0.1943
 245/1148 [=====>…] – ETA: 0s – loss: 0.1201
 560/1148 [============>…] – ETA: 0s – loss: 0.0974
1030/1149 [========================>…] – ETA: 0s – loss: 0.7775
 415/1149 [=========>…] – ETA: 1s – loss: 1.3751
 305/1149 [======>…] – ETA: 1s – loss: 1.2592
 895/1149 [=====================>…] – ETA: 0s – loss: 0.1835
 605/1149 [=============>…] – ETA: 0s – loss: 0.3896
 235/1149 [=====>…] – ETA: 0s – loss: 0.1705
 360/1148 [========>…] – ETA: 0s – loss: 0.1072
 665/1148 [================>…] – ETA: 0s – loss: 0.0933
1149/1149 [==============================] – 1s 448us/step – loss: 0.7297
Epoch 3/5

   5/1149 […] – ETA: 0s – loss: 0.3430
 510/1149 [===========>…] – ETA: 0s – loss: 1.3334
 395/1149 [=========>…] – ETA: 0s – loss: 1.2930
1005/1149 [========================>…] – ETA: 0s – loss: 0.1736
 735/1149 [==================>…] – ETA: 0s – loss: 0.3675
 345/1149 [========>…] – ETA: 0s – loss: 0.1529
 485/1148 [==========>…] – ETA: 0s – loss: 0.1088
 775/1148 [==================>…] – ETA: 0s – loss: 0.0936
 120/1149 [==>…] – ETA: 0s – loss: 0.4469
 585/1149 [=============>…] – ETA: 0s – loss: 1.3382
 435/1149 [==========>…] – ETA: 0s – loss: 1.2830
1105/1149 [===========================>..] – ETA: 0s – loss: 0.1712
 850/1149 [====================>…] – ETA: 0s – loss: 0.3552
 460/1149 [==========>…] – ETA: 0s – loss: 0.1577
 605/1148 [=============>…] – ETA: 0s – loss: 0.1143
 885/1148 [=====================>…] – ETA: 0s – loss: 0.0904
1149/1149 [==============================] – 1s 467us/step – loss: 0.1680

 255/1149 [=====>…] – ETA: 0s – loss: 0.5049Epoch 5/5

   5/1149 […] – ETA: 0s – loss: 0.0770
 660/1149 [================>…] – ETA: 0s – loss: 1.2886
 485/1149 [==========>…] – ETA: 0s – loss: 1.2386
 975/1149 [======================>…] – ETA: 0s – loss: 0.3397
 570/1149 [=============>…] – ETA: 0s – loss: 0.1472
 735/1148 [==================>…] – ETA: 0s – loss: 0.1131
 980/1148 [======================>…] – ETA: 0s – loss: 0.0964
 380/1149 [========>…] – ETA: 0s – loss: 0.4691
 125/1149 [==>…] – ETA: 0s – loss: 0.1875
 755/1149 [=================>…] – ETA: 0s – loss: 1.2785
```

```
 560/1149 [=============>…] – ETA: 0s – loss: 1.2298
1080/1149 [===========================>..] – ETA: 0s – loss: 0.3348
 680/1149 [===============>…] – ETA: 0s – loss: 0.1370
 840/1148 [====================>…] – ETA: 0s – loss: 0.1100
1095/1148 [===========================>..] – ETA: 0s – loss: 0.0946
 515/1149 [===========>…] – ETA: 0s – loss: 0.4566
1149/1149 [==============================] – 0s 425us/step – loss: 0.3278
Epoch 4/5

   5/1149 […] – ETA: 0s – loss: 0.0510
 220/1149 [====>…] – ETA: 0s – loss: 0.1701
 820/1149 [===================>…] – ETA: 0s – loss: 1.2526
1148/1148 [==============================] – 1s 467us/step – loss: 0.0970

 620/1149 [==============>…] – ETA: 0s – loss: 1.2543
 815/1149 [===================>…] – ETA: 0s – loss: 0.1454
 945/1148 [======================>…] – ETA: 0s – loss: 0.1100
 645/1149 [==============>…] – ETA: 0s – loss: 0.4510
 130/1149 [==>…] – ETA: 0s – loss: 0.2171
 345/1149 [========>…] – ETA: 0s – loss: 0.1543
 945/1149 [======================>…] – ETA: 0s – loss: 1.1936
 715/1149 [=================>…] – ETA: 0s – loss: 1.2525
 935/1149 [======================>…] – ETA: 0s – loss: 0.1413
1055/1148 [=========================>…] – ETA: 0s – loss: 0.1106
 780/1149 [==================>…] – ETA: 0s – loss: 0.4315
 260/1149 [=====>…] – ETA: 0s – loss: 0.2275
 460/1149 [==========>…] – ETA: 0s – loss: 0.1609
1090/1149 [===========================>..] – ETA: 0s – loss: 1.1174
 825/1149 [===================>…] – ETA: 0s – loss: 1.2327
1148/1148 [==============================] – 0s 435us/step – loss: 0.1101
Epoch 4/10

   5/1148 […] – ETA: 0s – loss: 0.0338
1055/1149 [=========================>…] – ETA: 0s – loss: 0.1407
1149/1149 [==============================] – 1s 859us/step – loss: 1.1193
Epoch 2/10

   5/1149 […] – ETA: 0s – loss: 0.0790
 900/1149 [=====================>…] – ETA: 0s – loss: 0.4161
 385/1149 [========>…] – ETA: 0s – loss: 0.2016
 575/1149 [=============>…] – ETA: 0s – loss: 0.1541
 905/1149 [=====================>…] – ETA: 0s – loss: 1.2101
1149/1149 [==============================] – 1s 443us/step – loss: 0.1376

 115/1148 [==>…] – ETA: 0s – loss: 0.0679
 115/1149 [==>…] – ETA: 0s – loss: 1.0094
1025/1149 [========================>…] – ETA: 0s – loss: 0.3960
 675/1149 [===============>…] – ETA: 0s – loss: 0.1561
```

```
 510/1149 [============>…] – ETA: 0s – loss: 0.1915
1035/1149 [==========================>…] – ETA: 0s – loss: 1.1450
 220/1148 [====>…] – ETA: 0s – loss: 0.0882
 205/1149 [====>…] – ETA: 0s – loss: 0.8025
1135/1149 [============================>.] – ETA: 0s – loss: 0.3813
 780/1149 [===================>…] – ETA: 0s – loss: 0.1508
 600/1149 [=============>…] – ETA: 0s – loss: 0.1900
1149/1149 [=============================] – 0s 409us/step – loss: 0.3786
Epoch 4/5

   5/1149 […] – ETA: 0s – loss: 0.4955
1145/1149 [============================>.] – ETA: 0s – loss: 1.1119
1149/1149 [=============================] – 1s 856us/step – loss: 1.1089
Epoch 2/10

   5/1149 […] – ETA: 0s – loss: 0.3617
 290/1149 [======>…] – ETA: 0s – loss: 0.8544
 340/1148 [=======>…] – ETA: 0s – loss: 0.0961
 880/1149 [====================>…] – ETA: 0s – loss: 0.1483
 725/1149 [=================>…] – ETA: 0s – loss: 0.1816
 125/1149 [==>…] – ETA: 0s – loss: 0.2854
  65/1149 [>…] – ETA: 0s – loss: 0.5654
 440/1149 [=========>…] – ETA: 0s – loss: 0.8529
 460/1148 [==========>…] – ETA: 0s – loss: 0.0952
 985/1149 [=======================>…] – ETA: 0s – loss: 0.1463
 825/1149 [===================>…] – ETA: 0s – loss: 0.1850
 235/1149 [=====>…] – ETA: 0s – loss: 0.2279
 155/1149 [===>…] – ETA: 0s – loss: 0.8019
 575/1149 [=============>…] – ETA: 0s – loss: 0.8850
 585/1148 [=============>…] – ETA: 0s – loss: 0.0967
1105/1149 [==========================>..] – ETA: 0s – loss: 0.1431
 960/1149 [=======================>…] – ETA: 0s – loss: 0.1752
 355/1149 [========>…] – ETA: 0s – loss: 0.2126
1149/1149 [=============================] – 1s 466us/step – loss: 0.1403

 265/1149 [=====>…] – ETA: 0s – loss: 1.0222
 700/1149 [================>…] – ETA: 0s – loss: 0.8392
 710/1148 [================>…] – ETA: 0s – loss: 0.0962
1090/1149 [==========================>..] – ETA: 0s – loss: 0.1679
 475/1149 [==========>…] – ETA: 0s – loss: 0.2252
1149/1149 [=============================] – 0s 419us/step – loss: 0.1731
Epoch 5/5

   5/1149 […] – ETA: 0s – loss: 0.1673
 410/1149 [=========>…] – ETA: 0s – loss: 0.9142
 825/1149 [====================>…] – ETA: 0s – loss: 0.8268
 845/1148 [=====================>…] – ETA: 0s – loss: 0.0932
 615/1149 [==============>…] – ETA: 0s – loss: 0.2237
```

```
 135/1149 [==>…] - ETA: 0s - loss: 0.2556
 560/1149 [============>…] - ETA: 0s - loss: 0.8606
 960/1149 [========================>…] - ETA: 0s - loss: 0.8151
 985/1148 [========================>…] - ETA: 0s - loss: 0.0950
 745/1149 [==================>…] - ETA: 0s - loss: 0.2250
 265/1149 [=====>…] - ETA: 0s - loss: 0.1820
 685/1149 [===============>…] - ETA: 0s - loss: 0.7702
1090/1149 [==========================>..] - ETA: 0s - loss: 0.7856
1120/1148 [=============================>.] - ETA: 0s - loss: 0.0967
1148/1148 [==============================] - 0s 424us/step - loss: 0.0962


 860/1149 [====================>…] - ETA: 0s - loss: 0.2348Epoch 5/10


   5/1148 […] - ETA: 0s - loss: 0.0624
1149/1149 [==============================] - 0s 424us/step - loss: 0.7896
Epoch 3/10


   5/1149 […] - ETA: 0s - loss: 0.2415
 365/1149 [=======>…] - ETA: 0s - loss: 0.1714
 805/1149 [===================>…] - ETA: 0s - loss: 0.7673
 955/1149 [======================>…] - ETA: 0s - loss: 0.2297
 105/1148 [=>…] - ETA: 0s - loss: 0.0844
  95/1149 [=>…] - ETA: 0s - loss: 0.6708
 490/1149 [==========>…] - ETA: 0s - loss: 0.1525
 925/1149 [======================>…] - ETA: 0s - loss: 0.7368
1080/1149 [==========================>..] - ETA: 0s - loss: 0.2227
 205/1148 [====>…] - ETA: 0s - loss: 0.0852Epoch 1/10


   5/1149 […] - ETA: 1:19 - loss: 1.3662
 205/1149 [====>…] - ETA: 0s - loss: 0.6829
 610/1149 [=============>…] - ETA: 0s - loss: 0.1525
1045/1149 [=========================>…] - ETA: 0s - loss: 0.7094
1149/1149 [==============================] - 0s 428us/step - loss: 0.2176
Epoch 5/5


   5/1149 […] - ETA: 0s - loss: 0.2498
 310/1148 [=======>…] - ETA: 0s - loss: 0.0800
 315/1149 [=======>…] - ETA: 0s - loss: 0.6255
  45/1149 [>…] - ETA: 9s - loss: 1.1654
1149/1149 [==============================] - 1s 444us/step - loss: 0.7013
Epoch 3/10


   5/1149 […] - ETA: 0s - loss: 0.3842
 725/1149 [=================>…] - ETA: 0s - loss: 0.1523
 110/1149 [=>…] - ETA: 0s - loss: 0.1743
 415/1148 [========>…] - ETA: 0s - loss: 0.0840
 430/1149 [==========>…] - ETA: 0s - loss: 0.6359
 100/1149 [=>…] - ETA: 4s - loss: 1.1355
```

```
 130/1149 [==>…] - ETA: 0s - loss: 0.4287
 865/1149 [====================>…] - ETA: 0s - loss: 0.1451
 220/1149 [====>…] - ETA: 0s - loss: 0.1616
 520/1148 [============>…] - ETA: 0s - loss: 0.0851
 545/1149 [============>…] - ETA: 0s - loss: 0.5842
 145/1149 [==>…] - ETA: 3s - loss: 1.2476
 255/1149 [=====>…] - ETA: 0s - loss: 0.4326
 980/1149 [=======================>…] - ETA: 0s - loss: 0.1421
 335/1149 [=======>…] - ETA: 0s - loss: 0.1666
 655/1148 [================>…] - ETA: 0s - loss: 0.0863
 655/1149 [================>…] - ETA: 0s - loss: 0.5578
 185/1149 [===>…] - ETA: 2s - loss: 1.2290
 375/1149 [========>…] - ETA: 0s - loss: 0.4498
1090/1149 [==========================>..] - ETA: 0s - loss: 0.1442
 450/1149 [==========>…] - ETA: 0s - loss: 0.1568
1149/1149 [==============================] - 0s 427us/step - loss: 0.1428

 760/1148 [==================>…] - ETA: 0s - loss: 0.0887
 765/1149 [==================>…] - ETA: 0s - loss: 0.5207
 280/1149 [======>…] - ETA: 1s - loss: 1.1280
 480/1149 [==========>…] - ETA: 0s - loss: 0.4492Epoch 1/10

   5/1149 […] - ETA: 1:06 - loss: 1.6843
 530/1149 [============>…] - ETA: 0s - loss: 0.1664
 820/1148 [====================>…] - ETA: 0s - loss: 0.0885Epoch 1/15

   5/1148 […] - ETA: 58s - loss: 0.3145
 840/1149 [====================>…] - ETA: 0s - loss: 0.5013
 535/1149 [============>…] - ETA: 0s - loss: 1.0748
 570/1149 [============>…] - ETA: 0s - loss: 0.4366
  70/1149 [>…] - ETA: 5s - loss: 1.0951
 655/1149 [================>…] - ETA: 0s - loss: 0.1621
 945/1148 [=======================>…] - ETA: 0s - loss: 0.0905
  40/1148 [>…] - ETA: 8s - loss: 0.3518
 985/1149 [=======================>…] - ETA: 0s - loss: 0.4944
 665/1149 [================>…] - ETA: 0s - loss: 1.1244
 700/1149 [================>…] - ETA: 0s - loss: 0.4337
 185/1149 [===>…] - ETA: 2s - loss: 1.0810
 785/1149 [==================>…] - ETA: 0s - loss: 0.1629
1060/1148 [========================>…] - ETA: 0s - loss: 0.0915
  85/1148 [=>…] - ETA: 4s - loss: 0.3437
1110/1149 [==========================>..] - ETA: 0s - loss: 0.4722
 800/1149 [==================>…] - ETA: 0s - loss: 1.1639
 815/1149 [===================>…] - ETA: 0s - loss: 0.4051
1149/1149 [==============================] - 1s 465us/step - loss: 0.4670
Epoch 4/10

   5/1149 […] - ETA: 0s - loss: 0.1203
```

```
 300/1149 [======>…] - ETA: 1s - loss: 1.0573
1148/1148 [==============================] - 1s 480us/step - loss: 0.0909


 885/1149 [======================>…] - ETA: 0s - loss: 0.1557Epoch 6/10


   5/1148 […] - ETA: 0s - loss: 0.1089
 145/1148 [==>…] - ETA: 2s - loss: 0.3525
 930/1149 [=======================>…] - ETA: 0s - loss: 1.1138
 925/1149 [=======================>…] - ETA: 0s - loss: 0.3826
 115/1149 [==>…] - ETA: 0s - loss: 0.2323
 360/1149 [========>…] - ETA: 1s - loss: 1.0755
 995/1149 [=========================>…] - ETA: 0s - loss: 0.1543
 115/1148 [==>…] - ETA: 0s - loss: 0.0755
 245/1148 [=====>…] - ETA: 1s - loss: 0.3887
1040/1149 [==========================>…] - ETA: 0s - loss: 1.1176
1050/1149 [==========================>…] - ETA: 0s - loss: 0.3729
 240/1149 [=====>…] - ETA: 0s - loss: 0.2464
 400/1149 [========>…] - ETA: 1s - loss: 1.1122
1130/1149 [============================>.] - ETA: 0s - loss: 0.1648
 240/1148 [=====>…] - ETA: 0s - loss: 0.0870
1149/1149 [==============================] - 1s 456us/step - loss: 0.1659


 360/1148 [========>…] - ETA: 1s - loss: 0.3714
1149/1149 [==============================] - 1s 800us/step - loss: 1.1032
Epoch 2/10


   5/1149 […] - ETA: 0s - loss: 1.4501
1149/1149 [==============================] - 1s 446us/step - loss: 0.3569
Epoch 4/10


   5/1149 […] - ETA: 0s - loss: 0.5865
 350/1149 [========>…] - ETA: 0s - loss: 0.3277
 475/1149 [==========>…] - ETA: 0s - loss: 1.0560
 355/1148 [========>…] - ETA: 0s - loss: 0.0822
 425/1148 [==========>…] - ETA: 0s - loss: 0.3469
 140/1149 [==>…] - ETA: 0s - loss: 0.8943
 125/1149 [==>…] - ETA: 0s - loss: 0.2181
 475/1149 [==========>…] - ETA: 0s - loss: 0.2971
 600/1149 [=============>…] - ETA: 0s - loss: 1.0321
 480/1148 [==========>…] - ETA: 0s - loss: 0.0824
 500/1148 [===========>…] - ETA: 0s - loss: 0.3192
 280/1149 [======>…] - ETA: 0s - loss: 0.8685
 260/1149 [=====>…] - ETA: 0s - loss: 0.2003
 570/1149 [=============>…] - ETA: 0s - loss: 0.2875
 670/1149 [===============>…] - ETA: 0s - loss: 1.0125
 615/1148 [==============>…] - ETA: 0s - loss: 0.0806
 565/1148 [=============>…] - ETA: 0s - loss: 0.3098
 400/1149 [========>…] - ETA: 0s - loss: 0.9184
```

```
 365/1149 [========>…] - ETA: 0s - loss: 0.1813
 675/1149 [===============>…] - ETA: 0s - loss: 0.2794
 780/1149 [==================>…] - ETA: 0s - loss: 1.0070
 730/1148 [==================>…] - ETA: 0s - loss: 0.0836
 515/1149 [===========>…] - ETA: 0s - loss: 0.9378
 655/1148 [===============>…] - ETA: 0s - loss: 0.3004
 475/1149 [==========>…] - ETA: 0s - loss: 0.1966
 805/1149 [===================>…] - ETA: 0s - loss: 0.2699
 845/1149 [====================>…] - ETA: 0s - loss: 1.0241
 865/1148 [====================>…] - ETA: 0s - loss: 0.0887
 730/1148 [==================>…] - ETA: 0s - loss: 0.2903
 635/1149 [==============>…] - ETA: 0s - loss: 0.8363
 600/1149 [=============>…] - ETA: 0s - loss: 0.1948
 935/1149 [======================>…] - ETA: 0s - loss: 0.2539
 915/1149 [======================>…] - ETA: 0s - loss: 1.0239
 975/1148 [========================>…] - ETA: 0s - loss: 0.0887
 885/1148 [=====================>…] - ETA: 0s - loss: 0.2715Epoch 1/15


   5/1149 […] - ETA: 1:17 - loss: 0.4630
 755/1149 [=================>…] - ETA: 0s - loss: 0.8422
 715/1149 [================>…] - ETA: 0s - loss: 0.1938
1060/1149 [==========================>…] - ETA: 0s - loss: 0.2467
 985/1149 [========================>…] - ETA: 0s - loss: 1.0088
1080/1148 [===========================>..] - ETA: 0s - loss: 0.0878
1020/1148 [=========================>…] - ETA: 0s - loss: 0.2535
 845/1149 [====================>…] - ETA: 0s - loss: 0.1923
 880/1149 [=====================>…] - ETA: 0s - loss: 0.8459
1148/1148 [==============================] - 0s 429us/step - loss: 0.0876


1149/1149 [==============================] - 1s 439us/step - loss: 0.2387


  40/1149 [>…] - ETA: 11s - loss: 0.9346 Epoch 7/10


   5/1148 […] - ETA: 0s - loss: 0.0194Epoch 5/10


   5/1149 […] - ETA: 0s - loss: 0.0995
1085/1149 [===========================>..] - ETA: 0s - loss: 0.9775
1149/1149 [==============================] - 1s 856us/step - loss: 0.9616


1148/1148 [==============================] - 1s 807us/step - loss: 0.2405
Epoch 2/15


   5/1148 […] - ETA: 0s - loss: 0.0952Epoch 2/10


   5/1149 […] - ETA: 0s - loss: 1.1189
1000/1149 [========================>…] - ETA: 0s - loss: 0.8593
 955/1149 [======================>…] - ETA: 0s - loss: 0.1875
 120/1148 [==>…] - ETA: 0s - loss: 0.0792
```

```
 125/1149 [==>…] - ETA: 0s - loss: 0.2751
  95/1149 [=>…] - ETA: 5s - loss: 0.9968
 140/1148 [==>…] - ETA: 0s - loss: 0.1426
 125/1149 [==>…] - ETA: 0s - loss: 0.5196
1120/1149 [===========================>.] - ETA: 0s - loss: 0.8233
1055/1149 [==========================>…] - ETA: 0s - loss: 0.1902
 240/1148 [=====>…] - ETA: 0s - loss: 0.0737
1149/1149 [=============================] - 0s 411us/step - loss: 0.8306

 240/1149 [=====>…] - ETA: 0s - loss: 0.1892Epoch 3/10

   5/1149 […] - ETA: 0s - loss: 0.8307
 170/1149 [===>…] - ETA: 2s - loss: 0.9426
 260/1148 [=====>…] - ETA: 0s - loss: 0.1431
 260/1149 [=====>…] - ETA: 0s - loss: 0.5317
1149/1149 [=============================] - 1s 444us/step - loss: 0.1869
Epoch 5/10

   5/1149 […] - ETA: 0s - loss: 0.1119
 370/1148 [========>…] - ETA: 0s - loss: 0.0762
 355/1149 [========>…] - ETA: 0s - loss: 0.1862
 135/1149 [==>…] - ETA: 0s - loss: 0.4009
 245/1149 [=====>…] - ETA: 2s - loss: 1.0956
 400/1148 [=========>…] - ETA: 0s - loss: 0.1383
 385/1149 [=========>…] - ETA: 0s - loss: 0.5041
 145/1149 [==>…] - ETA: 0s - loss: 0.1881
 485/1148 [==========>…] - ETA: 0s - loss: 0.0738
 460/1149 [==========>…] - ETA: 0s - loss: 0.1873
 230/1149 [=====>…] - ETA: 0s - loss: 0.4139
 305/1149 [======>…] - ETA: 1s - loss: 1.1073
 525/1148 [===========>…] - ETA: 0s - loss: 0.1410
 505/1149 [===========>…] - ETA: 0s - loss: 0.4880
 275/1149 [======>…] - ETA: 0s - loss: 0.1658
 600/1148 [=============>…] - ETA: 0s - loss: 0.0752
 565/1149 [=============>…] - ETA: 0s - loss: 0.1932
 355/1149 [========>…] - ETA: 0s - loss: 0.4216
 350/1149 [========>…] - ETA: 1s - loss: 1.1317
 620/1148 [==============>…] - ETA: 0s - loss: 0.1322
 620/1149 [==============>…] - ETA: 0s - loss: 0.4982
 415/1149 [========>…] - ETA: 0s - loss: 0.1511Epoch 1/15

   5/1149 […] - ETA: 1:23 - loss: 0.4697
 730/1148 [=================>…] - ETA: 0s - loss: 0.0797
 495/1149 [===========>…] - ETA: 0s - loss: 0.4465
 685/1149 [================>…] - ETA: 0s - loss: 0.1872
 405/1149 [=========>…] - ETA: 1s - loss: 1.1158
 725/1148 [=================>…] - ETA: 0s - loss: 0.1301
 735/1149 [=================>…] - ETA: 0s - loss: 0.4738
```

```
 530/1149 [===========>…] - ETA: 0s - loss: 0.1384
  75/1149 [>…] - ETA: 5s - loss: 1.4468
 845/1148 [====================>…] - ETA: 0s - loss: 0.0845
 615/1149 [==============>…] - ETA: 0s - loss: 0.4387
 795/1149 [===================>…] - ETA: 0s - loss: 0.1791
 495/1149 [==========>…] - ETA: 1s - loss: 1.1059
 815/1148 [===================>…] - ETA: 0s - loss: 0.1361
 855/1149 [====================>…] - ETA: 0s - loss: 0.4592
 650/1149 [==============>…] - ETA: 0s - loss: 0.1482
 145/1149 [==>…] - ETA: 3s - loss: 1.1230
 955/1148 [======================>…] - ETA: 0s - loss: 0.0852
 925/1149 [======================>…] - ETA: 0s - loss: 0.1708
 725/1149 [=================>…] - ETA: 0s - loss: 0.4329
 595/1149 [=============>…] - ETA: 0s - loss: 1.0637
 945/1148 [======================>…] - ETA: 0s - loss: 0.1310
 970/1149 [=======================>…] - ETA: 0s - loss: 0.4381
 775/1149 [=================>…] - ETA: 0s - loss: 0.1501
 180/1149 [===>…] - ETA: 2s - loss: 1.1497
1070/1148 [=========================>…] - ETA: 0s - loss: 0.0850
1045/1149 [=========================>…] - ETA: 0s - loss: 0.1796
 840/1149 [==================>…] - ETA: 0s - loss: 0.4038
 695/1149 [=================>…] - ETA: 0s - loss: 1.0757
1148/1148 [==============================] - 0s 431us/step - loss: 0.0855
Epoch 8/10

   5/1148 […] - ETA: 0s - loss: 0.0664
1065/1148 [==========================>…] - ETA: 0s - loss: 0.1267
1090/1149 [===========================>..] - ETA: 0s - loss: 0.4119
 905/1149 [=====================>…] - ETA: 0s - loss: 0.1466
1149/1149 [==============================] - 1s 444us/step - loss: 0.1761
Epoch 6/10

   5/1149 […] - ETA: 0s - loss: 0.2210
 225/1149 [====>…] - ETA: 2s - loss: 1.0842
 955/1149 [======================>…] - ETA: 0s - loss: 0.4138
1149/1149 [==============================] - 0s 420us/step - loss: 0.3999
Epoch 3/10

   5/1149 […] - ETA: 0s - loss: 0.2030
 805/1149 [===================>…] - ETA: 0s - loss: 1.1146
1148/1148 [==============================] - 1s 438us/step - loss: 0.1272
Epoch 3/15

   5/1148 […] - ETA: 0s - loss: 0.2617
 125/1148 [==>…] - ETA: 0s - loss: 0.0883
1015/1149 [=========================>…] - ETA: 0s - loss: 0.1418
 125/1149 [==>…] - ETA: 0s - loss: 0.1933
 305/1149 [======>…] - ETA: 1s - loss: 1.1426
```

```
1080/1149 [============================>..] - ETA: 0s - loss: 0.4162
 105/1149 [=>…] - ETA: 0s - loss: 0.1486
 915/1149 [======================>…] - ETA: 0s - loss: 1.0881
 120/1148 [==>…] - ETA: 0s - loss: 0.1182
 235/1148 [=====>…] - ETA: 0s - loss: 0.0823
1149/1149 [=============================] - 0s 434us/step - loss: 0.4232
Epoch 4/10

   5/1149 […] - ETA: 0s - loss: 0.0652
1125/1149 [============================>.] - ETA: 0s - loss: 0.1473
 245/1149 [=====>…] - ETA: 0s - loss: 0.1476
1149/1149 [=============================] - 0s 411us/step - loss: 0.1459
Epoch 6/10

   5/1149 […] - ETA: 0s - loss: 0.0364
 375/1149 [========>…] - ETA: 1s - loss: 1.1348
 240/1149 [=====>…] - ETA: 0s - loss: 0.1675
1015/1149 [=========================>…] - ETA: 0s - loss: 1.0904
 240/1148 [=====>…] - ETA: 0s - loss: 0.1094
 365/1148 [========>…] - ETA: 0s - loss: 0.0765
 120/1149 [==>…] - ETA: 0s - loss: 0.2189
 370/1149 [========>…] - ETA: 0s - loss: 0.1414
 115/1149 [==>…] - ETA: 0s - loss: 0.0962
 450/1149 [==========>…] - ETA: 1s - loss: 1.2227
 360/1149 [========>…] - ETA: 0s - loss: 0.2061
1140/1149 [============================>.] - ETA: 0s - loss: 1.0938
 345/1148 [========>…] - ETA: 0s - loss: 0.1062
1149/1149 [=============================] - 1s 951us/step - loss: 1.0874
Epoch 2/15

   5/1149 […] - ETA: 0s - loss: 0.1189
 485/1148 [===========>…] - ETA: 0s - loss: 0.0774
 240/1149 [=====>…] - ETA: 0s - loss: 0.2911
 495/1149 [===========>…] - ETA: 0s - loss: 0.1734
 230/1149 [=====>…] - ETA: 0s - loss: 0.1065
 505/1149 [============>…] - ETA: 1s - loss: 1.1916
 475/1149 [===========>…] - ETA: 0s - loss: 0.2013
 450/1148 [==========>…] - ETA: 0s - loss: 0.1139
 130/1149 [==>…] - ETA: 0s - loss: 0.9933
 605/1148 [=============>…] - ETA: 0s - loss: 0.0782
 355/1149 [========>…] - ETA: 0s - loss: 0.2755
 615/1149 [==============>…] - ETA: 0s - loss: 0.1705
 350/1149 [========>…] - ETA: 0s - loss: 0.1078
 620/1149 [==============>…] - ETA: 0s - loss: 1.2314
 585/1149 [==============>…] - ETA: 0s - loss: 0.1952
 560/1148 [=============>…] - ETA: 0s - loss: 0.1112
 705/1148 [=================>…] - ETA: 0s - loss: 0.0787
 250/1149 [=====>…] - ETA: 0s - loss: 0.9595
```

```
 470/1149 [===========>…] - ETA: 0s - loss: 0.3009
 715/1149 [=================>…] - ETA: 0s - loss: 0.1678
 450/1149 [==========>…] - ETA: 0s - loss: 0.1127
 770/1149 [==================>…] - ETA: 0s - loss: 1.1582
 675/1149 [===============>…] - ETA: 0s - loss: 0.1997
 685/1148 [===============>…] - ETA: 0s - loss: 0.1109
 345/1149 [========>…] - ETA: 0s - loss: 0.8459
 825/1148 [====================>…] - ETA: 0s - loss: 0.0819
 585/1149 [=============>…] - ETA: 0s - loss: 0.2838
 810/1149 [===================>…] - ETA: 0s - loss: 0.1700
 555/1149 [=============>…] - ETA: 0s - loss: 0.1402
 910/1149 [=====================>…] - ETA: 0s - loss: 1.1465
 790/1149 [==================>…] - ETA: 0s - loss: 0.1957
 810/1148 [===================>…] - ETA: 0s - loss: 0.1107
 460/1149 [==========>…] - ETA: 0s - loss: 0.8135
 925/1148 [======================>…] - ETA: 0s - loss: 0.0810
 695/1149 [================>…] - ETA: 0s - loss: 0.2699
 925/1149 [======================>…] - ETA: 0s - loss: 0.1652
 670/1149 [===============>…] - ETA: 0s - loss: 0.1353
1020/1149 [=========================>…] - ETA: 0s - loss: 1.1583
 915/1149 [=====================>…] - ETA: 0s - loss: 0.1879
 910/1148 [=====================>…] - ETA: 0s - loss: 0.1054
 575/1149 [=============>…] - ETA: 0s - loss: 0.7165
1045/1148 [==========================>…] - ETA: 0s - loss: 0.0801
 800/1149 [==================>…] - ETA: 0s - loss: 0.2551
1040/1149 [==========================>…] - ETA: 0s - loss: 0.1671
 780/1149 [==================>…] - ETA: 0s - loss: 0.1389
1149/1149 [==============================] - 1s 906us/step - loss: 1.1197
Epoch 2/15

   5/1149 […] - ETA: 0s - loss: 0.8200
1015/1149 [=========================>…] - ETA: 0s - loss: 0.1827
1015/1148 [=========================>…] - ETA: 0s - loss: 0.1049
 685/1149 [===============>…] - ETA: 0s - loss: 0.7195
1145/1148 [=============================>.] - ETA: 0s - loss: 0.0841
1148/1148 [==============================] - 1s 451us/step - loss: 0.0840
Epoch 9/10

   5/1148 […] - ETA: 0s - loss: 0.0500
 900/1149 [=====================>…] - ETA: 0s - loss: 0.2471
1149/1149 [==============================] - 1s 444us/step - loss: 0.1581
Epoch 7/10

   5/1149 […] - ETA: 0s - loss: 0.0987
 880/1149 [====================>…] - ETA: 0s - loss: 0.1374
 125/1149 [==>…] - ETA: 0s - loss: 0.8339
1125/1149 [============================>.] - ETA: 0s - loss: 0.1771
1149/1149 [==============================] - 1s 460us/step - loss: 0.1773
```

```
Epoch 4/10

   5/1149 […] - ETA: 0s - loss: 0.1212
1135/1148 [============================>.] - ETA: 0s - loss: 0.1055
 800/1149 [===================>…] - ETA: 0s - loss: 0.6753
1148/1148 [=============================] - 1s 453us/step - loss: 0.1052
Epoch 4/15

   5/1148 […] - ETA: 0s - loss: 0.0295
 110/1148 [=>…] - ETA: 0s - loss: 0.0811
1010/1149 [=========================>…] - ETA: 0s - loss: 0.2416
 120/1149 [==>…] - ETA: 0s - loss: 0.1618
 985/1149 [========================>…] - ETA: 0s - loss: 0.1379
 240/1149 [=====>…] - ETA: 0s - loss: 0.9294
 120/1149 [==>…] - ETA: 0s - loss: 0.1239
 895/1149 [=====================>…] - ETA: 0s - loss: 0.6334
 125/1148 [==>…] - ETA: 0s - loss: 0.1086
 230/1148 [=====>…] - ETA: 0s - loss: 0.0871
1125/1149 [===========================>.] - ETA: 0s - loss: 0.2299
 245/1149 [=====>…] - ETA: 0s - loss: 0.1563
1095/1149 [==========================>..] - ETA: 0s - loss: 0.1343
1149/1149 [=============================] - 1s 459us/step - loss: 0.2278

 375/1149 [========>…] - ETA: 0s - loss: 0.8516Epoch 5/10

   5/1149 […] - ETA: 0s - loss: 0.1293
1149/1149 [=============================] - 1s 467us/step - loss: 0.1348

 230/1149 [=====>…] - ETA: 0s - loss: 0.1321Epoch 7/10

   5/1149 […] - ETA: 0s - loss: 0.0307
1015/1149 [=========================>…] - ETA: 0s - loss: 0.5874
 225/1148 [====>…] - ETA: 0s - loss: 0.1094
 345/1148 [========>…] - ETA: 0s - loss: 0.0856
 365/1149 [========>…] - ETA: 0s - loss: 0.1475
 455/1149 [==========>…] - ETA: 0s - loss: 0.8232
 115/1149 [==>…] - ETA: 0s - loss: 0.2037
 165/1149 [===>…] - ETA: 0s - loss: 0.1547
 350/1149 [========>…] - ETA: 0s - loss: 0.1461
1140/1149 [===========================>.] - ETA: 0s - loss: 0.5460
 455/1148 [==========>…] - ETA: 0s - loss: 0.0835
 345/1148 [========>…] - ETA: 0s - loss: 0.1034
1149/1149 [=============================] - 1s 452us/step - loss: 0.5435
Epoch 3/15

   5/1149 […] - ETA: 0s - loss: 0.1388
 475/1149 [===========>…] - ETA: 0s - loss: 0.1607
 525/1149 [============>…] - ETA: 0s - loss: 0.8044
```

```
 225/1149 [====>…] - ETA: 0s - loss: 0.1466
 295/1149 [======>…] - ETA: 0s - loss: 0.1373
 465/1149 [==========>…] - ETA: 0s - loss: 0.1423
 560/1148 [=============>…] - ETA: 0s - loss: 0.0813
 455/1148 [==========>…] - ETA: 0s - loss: 0.1106
 110/1149 [=>…] - ETA: 0s - loss: 0.2127
 590/1149 [=============>…] - ETA: 0s - loss: 0.1541
 635/1149 [==============>…] - ETA: 0s - loss: 0.7928
 330/1149 [=======>…] - ETA: 0s - loss: 0.1667
 405/1149 [=========>…] - ETA: 0s - loss: 0.1336
 580/1149 [=============>…] - ETA: 0s - loss: 0.1441
 675/1148 [================>…] - ETA: 0s - loss: 0.0795
 585/1148 [=============>…] - ETA: 0s - loss: 0.1054
 225/1149 [====>…] - ETA: 0s - loss: 0.1818
 695/1149 [================>…] - ETA: 0s - loss: 0.1493
 730/1149 [=================>…] - ETA: 0s - loss: 0.7774
 450/1149 [=========>…] - ETA: 0s - loss: 0.1698
 525/1149 [===========>…] - ETA: 0s - loss: 0.1242
 690/1149 [================>…] - ETA: 0s - loss: 0.1444
 790/1148 [==================>…] - ETA: 0s - loss: 0.0785
 690/1148 [================>…] - ETA: 0s - loss: 0.1006
 340/1149 [=======>…] - ETA: 0s - loss: 0.1916
 810/1149 [===================>…] - ETA: 0s - loss: 0.1476
 845/1149 [====================>…] - ETA: 0s - loss: 0.7929
 555/1149 [=============>…] - ETA: 0s - loss: 0.1820
 635/1149 [==============>…] - ETA: 0s - loss: 0.1198
 795/1149 [==================>…] - ETA: 0s - loss: 0.1472
 905/1148 [=====================>…] - ETA: 0s - loss: 0.0831
 800/1148 [==================>…] - ETA: 0s - loss: 0.0963
 455/1149 [==========>…] - ETA: 0s - loss: 0.1945
 920/1149 [=====================>…] - ETA: 0s - loss: 0.1429
 970/1149 [=======================>…] - ETA: 0s - loss: 0.7343
 660/1149 [===============>…] - ETA: 0s - loss: 0.1734
 740/1149 [=================>…] - ETA: 0s - loss: 0.1163
 905/1149 [=====================>…] - ETA: 0s - loss: 0.1592
1035/1148 [=========================>…] - ETA: 0s - loss: 0.0831
 890/1148 [=====================>…] - ETA: 0s - loss: 0.0986
 585/1149 [=============>…] - ETA: 0s - loss: 0.2065
1025/1149 [=======================>…] - ETA: 0s - loss: 0.1523
1115/1149 [===========================>.] - ETA: 0s - loss: 0.7129
 775/1149 [==================>…] - ETA: 0s - loss: 0.1700
1149/1149 [============================] - 1s 457us/step - loss: 0.7058
Epoch 3/15

   5/1149 […] - ETA: 0s - loss: 2.0942
1015/1149 [========================>…] - ETA: 0s - loss: 0.1526
 850/1149 [====================>…] - ETA: 0s - loss: 0.1288
1148/1148 [============================] - 1s 445us/step - loss: 0.0831
```

```
1000/1148 [=========================>…] - ETA: 0s - loss: 0.0974Epoch 10/10

   5/1148 […] - ETA: 0s - loss: 0.0249
 700/1149 [================>…] - ETA: 0s - loss: 0.1939
1145/1149 [============================>.] - ETA: 0s - loss: 0.1482
1149/1149 [=============================] - 1s 446us/step - loss: 0.1478
Epoch 8/10

   5/1149 […] - ETA: 0s - loss: 0.1008
 895/1149 [=====================>…] - ETA: 0s - loss: 0.1643
 105/1149 [=>…] - ETA: 0s - loss: 0.5066
 955/1149 [======================>…] - ETA: 0s - loss: 0.1360
1115/1149 [===========================>.] - ETA: 0s - loss: 0.1578
1110/1148 [===========================>.] - ETA: 0s - loss: 0.0966
 125/1148 [==>…] - ETA: 0s - loss: 0.0717
 810/1149 [===================>…] - ETA: 0s - loss: 0.1890
1149/1149 [=============================] - 1s 464us/step - loss: 0.1587
Epoch 5/10

   5/1149 […] - ETA: 0s - loss: 0.3484
1148/1148 [=============================] - 1s 460us/step - loss: 0.0975

 120/1149 [==>…] - ETA: 0s - loss: 0.1339Epoch 5/15

   5/1148 […] - ETA: 0s - loss: 0.0623
1005/1149 [========================>…] - ETA: 0s - loss: 0.1608
 215/1149 [====>…] - ETA: 0s - loss: 0.4508
1065/1149 [=========================>…] - ETA: 0s - loss: 0.1308
 240/1148 [=====>…] - ETA: 0s - loss: 0.0784
 925/1149 [======================>…] - ETA: 0s - loss: 0.1851
 105/1149 [=>…] - ETA: 0s - loss: 0.2712
 230/1149 [=====>…] - ETA: 0s - loss: 0.1250
 125/1148 [==>…] - ETA: 0s - loss: 0.0962
1120/1149 [===========================>.] - ETA: 0s - loss: 0.1537
1149/1149 [=============================] - 1s 440us/step - loss: 0.1308

 340/1149 [=======>…] - ETA: 0s - loss: 0.4263Epoch 8/10

   5/1149 […] - ETA: 0s - loss: 0.0402
1149/1149 [=============================] - 1s 462us/step - loss: 0.1522
Epoch 6/10

   5/1149 […] - ETA: 0s - loss: 0.2068
 360/1148 [=======>…] - ETA: 0s - loss: 0.0788
1045/1149 [=========================>…] - ETA: 0s - loss: 0.1768
 215/1149 [====>…] - ETA: 0s - loss: 0.1975
 240/1148 [=====>…] - ETA: 0s - loss: 0.0975
```

```
 340/1149 [=======>…] - ETA: 0s - loss: 0.1233
  95/1149 [=>…] - ETA: 0s - loss: 0.1443
 475/1149 [==========>…] - ETA: 0s - loss: 0.3828
 120/1149 [==>…] - ETA: 0s - loss: 0.1822
1149/1149 [=============================] - 1s 443us/step - loss: 0.1680
Epoch 4/15

   5/1149 […] - ETA: 0s - loss: 0.0402
 470/1148 [==========>…] - ETA: 0s - loss: 0.0835
 330/1149 [=======>…] - ETA: 0s - loss: 0.1787
 340/1148 [=======>…] - ETA: 0s - loss: 0.0970
 455/1149 [=========>…] - ETA: 0s - loss: 0.1264
 610/1149 [=============>…] - ETA: 0s - loss: 0.3742
 200/1149 [====>…] - ETA: 0s - loss: 0.1431
 230/1149 [=====>…] - ETA: 0s - loss: 0.1856
 115/1149 [==>…] - ETA: 0s - loss: 0.1551
 575/1148 [=============>…] - ETA: 0s - loss: 0.0830
 430/1149 [=========>…] - ETA: 0s - loss: 0.1725
 455/1148 [=========>…] - ETA: 0s - loss: 0.0967
 565/1149 [============>…] - ETA: 0s - loss: 0.1532
 715/1149 [================>…] - ETA: 0s - loss: 0.3548
 320/1149 [=======>…] - ETA: 0s - loss: 0.1257
 350/1149 [========>…] - ETA: 0s - loss: 0.1496
 250/1149 [=====>…] - ETA: 0s - loss: 0.1231
 680/1148 [===============>…] - ETA: 0s - loss: 0.0827
 535/1149 [===========>…] - ETA: 0s - loss: 0.1581
 570/1148 [============>…] - ETA: 0s - loss: 0.0924
 680/1149 [===============>…] - ETA: 0s - loss: 0.1519
 820/1149 [==================>…] - ETA: 0s - loss: 0.3416
 435/1149 [=========>…] - ETA: 0s - loss: 0.1474
 460/1149 [==========>…] - ETA: 0s - loss: 0.1494
 375/1149 [========>…] - ETA: 0s - loss: 0.1220
 790/1148 [==================>…] - ETA: 0s - loss: 0.0819
 650/1149 [==============>…] - ETA: 0s - loss: 0.1560
 675/1148 [================>…] - ETA: 0s - loss: 0.0929
 800/1149 [==================>…] - ETA: 0s - loss: 0.1476
 925/1149 [=======================>…] - ETA: 0s - loss: 0.3229
 560/1149 [============>…] - ETA: 0s - loss: 0.1454
 585/1149 [=============>…] - ETA: 0s - loss: 0.1597
 455/1149 [=========>…] - ETA: 0s - loss: 0.1226
 910/1148 [=====================>…] - ETA: 0s - loss: 0.0843
 745/1149 [=================>…] - ETA: 0s - loss: 0.1506
 775/1148 [=================>…] - ETA: 0s - loss: 0.0947
 940/1149 [=======================>…] - ETA: 0s - loss: 0.1397
1040/1149 [==========================>…] - ETA: 0s - loss: 0.3150
 700/1149 [================>…] - ETA: 0s - loss: 0.1372
 715/1149 [================>…] - ETA: 0s - loss: 0.1478
 535/1149 [===========>…] - ETA: 0s - loss: 0.1331
```

```
1030/1148 [========================>…] - ETA: 0s - loss: 0.0827
 850/1149 [====================>…] - ETA: 0s - loss: 0.1458
 885/1148 [=====================>…] - ETA: 0s - loss: 0.0919
1050/1149 [=========================>…] - ETA: 0s - loss: 0.1455
1145/1149 [============================>.] - ETA: 0s - loss: 0.3079
1149/1149 [=============================] - 1s 451us/step - loss: 0.3070

 825/1149 [===================>…] - ETA: 0s - loss: 0.1432
 815/1149 [===================>…] - ETA: 0s - loss: 0.1351Epoch 4/15

   5/1149 […] - ETA: 0s - loss: 0.4830
1148/1148 [=============================] - 1s 445us/step - loss: 0.0823

 665/1149 [===============>…] - ETA: 0s - loss: 0.1505
 965/1149 [=======================>…] - ETA: 0s - loss: 0.1533
1000/1148 [========================>…] - ETA: 0s - loss: 0.0924
1120/1149 [===========================>.] - ETA: 0s - loss: 0.1423
 875/1149 [=====================>…] - ETA: 0s - loss: 0.1317
1149/1149 [=============================] - 1s 470us/step - loss: 0.1406

 120/1149 [==>…] - ETA: 0s - loss: 0.2421
 915/1149 [======================>…] - ETA: 0s - loss: 0.1382Epoch 9/10

   5/1149 […] - ETA: 0s - loss: 0.0327
 795/1149 [==================>…] - ETA: 0s - loss: 0.1451
1115/1149 [===========================>.] - ETA: 0s - loss: 0.1500
1105/1148 [===========================>..] - ETA: 0s - loss: 0.0958
1149/1149 [=============================] - 1s 459us/step - loss: 0.1506
Epoch 6/10

   5/1149 […] - ETA: 0s - loss: 0.2683
 240/1149 [=====>…] - ETA: 0s - loss: 0.2140
 955/1149 [=======================>…] - ETA: 0s - loss: 0.1317
1148/1148 [=============================] - 1s 469us/step - loss: 0.0944

1000/1149 [========================>…] - ETA: 0s - loss: 0.1349
  90/1149 [=>…] - ETA: 0s - loss: 0.1383Epoch 6/15

   5/1148 […] - ETA: 1s - loss: 0.0368
 920/1149 [=====================>…] - ETA: 0s - loss: 0.1373
 110/1149 [=>…] - ETA: 0s - loss: 0.1513
1055/1149 [========================>…] - ETA: 0s - loss: 0.1298
 315/1149 [=======>…] - ETA: 0s - loss: 0.2062
1145/1149 [============================>.] - ETA: 0s - loss: 0.1339
 230/1149 [=====>…] - ETA: 0s - loss: 0.1180
1149/1149 [=============================] - 1s 452us/step - loss: 0.1336
Epoch 7/10
```

```
   5/1149 […] - ETA: 0s - loss: 0.0312
 130/1148 [==>…] - ETA: 0s - loss: 0.1069
 975/1149 [=========================>…] - ETA: 0s - loss: 0.1354
1149/1149 [==============================] - 1s 483us/step - loss: 0.1277
Epoch 9/10

   5/1149 […] - ETA: 0s - loss: 0.1274
 180/1149 [===>…] - ETA: 0s - loss: 0.1753
 360/1149 [=======>…] - ETA: 0s - loss: 0.2023
 350/1149 [=======>…] - ETA: 0s - loss: 0.1119
1055/1149 [==========================>…] - ETA: 0s - loss: 0.1380
 240/1148 [=====>…] - ETA: 0s - loss: 0.0998
 125/1149 [==>…] - ETA: 0s - loss: 0.1216
 140/1149 [==>…] - ETA: 0s - loss: 0.1341
 270/1149 [======>…] - ETA: 0s - loss: 0.2149
1149/1149 [==============================] - 1s 482us/step - loss: 0.1348
Epoch 5/15

   5/1149 […] - ETA: 0s - loss: 0.0370
 465/1149 [==========>…] - ETA: 0s - loss: 0.1195
 460/1149 [==========>…] - ETA: 0s - loss: 0.1995
 250/1149 [=====>…] - ETA: 0s - loss: 0.1016
 350/1148 [=======>…] - ETA: 0s - loss: 0.0863
 255/1149 [=====>…] - ETA: 0s - loss: 0.1694
 370/1149 [=======>…] - ETA: 0s - loss: 0.1830
 120/1149 [==>…] - ETA: 0s - loss: 0.1465
 575/1149 [=============>…] - ETA: 0s - loss: 0.1195
 575/1149 [=============>…] - ETA: 0s - loss: 0.1969
 370/1149 [=======>…] - ETA: 0s - loss: 0.1031
 470/1148 [==========>…] - ETA: 0s - loss: 0.0893
 485/1149 [==========>…] - ETA: 0s - loss: 0.1694
 370/1149 [=======>…] - ETA: 0s - loss: 0.1586
 230/1149 [=====>…] - ETA: 0s - loss: 0.1571
 695/1149 [================>…] - ETA: 0s - loss: 0.1357
 690/1149 [================>…] - ETA: 0s - loss: 0.1841
 595/1148 [==============>…] - ETA: 0s - loss: 0.0852
 480/1149 [==========>…] - ETA: 0s - loss: 0.1135
 605/1149 [=============>…] - ETA: 0s - loss: 0.1571
 490/1149 [==========>…] - ETA: 0s - loss: 0.1445
 365/1149 [=======>…] - ETA: 0s - loss: 0.1483
 770/1149 [==================>…] - ETA: 0s - loss: 0.1322
 845/1149 [====================>…] - ETA: 0s - loss: 0.1904
 725/1148 [=================>…] - ETA: 0s - loss: 0.0838
 545/1149 [=============>…] - ETA: 0s - loss: 0.1373
 700/1149 [=================>…] - ETA: 0s - loss: 0.1500
 610/1149 [=============>…] - ETA: 0s - loss: 0.1365
 505/1149 [===========>…] - ETA: 0s - loss: 0.1379
 840/1149 [====================>…] - ETA: 0s - loss: 0.1278
```

```
1000/1149 [========================>…] - ETA: 0s - loss: 0.1966
 850/1148 [=====================>…] - ETA: 0s - loss: 0.0850
 630/1149 [==============>…] - ETA: 0s - loss: 0.1358
 810/1149 [===================>…] - ETA: 0s - loss: 0.1473
 720/1149 [=================>…] - ETA: 0s - loss: 0.1378
 625/1149 [==============>…] - ETA: 0s - loss: 0.1271
 960/1149 [=======================>…] - ETA: 0s - loss: 0.1354
1125/1149 [============================>.] - ETA: 0s - loss: 0.2045
 765/1149 [=================>…] - ETA: 0s - loss: 0.1341
 955/1148 [=======================>…] - ETA: 0s - loss: 0.0858
1149/1149 [==============================] - 1s 465us/step - loss: 0.2023
Epoch 5/15

   5/1149 […] - ETA: 0s - loss: 0.0401
 950/1149 [=======================>…] - ETA: 0s - loss: 0.1442
 805/1149 [===================>…] - ETA: 0s - loss: 0.1363
 715/1149 [=================>…] - ETA: 0s - loss: 0.1365
1105/1149 [===========================>..] - ETA: 0s - loss: 0.1352
 910/1149 [======================>…] - ETA: 0s - loss: 0.1309
1035/1148 [==========================>…] - ETA: 0s - loss: 0.0844
1149/1149 [==============================] - 1s 462us/step - loss: 0.1359
Epoch 10/10

   5/1149 […] - ETA: 0s - loss: 0.0857
  95/1149 [=>…] - ETA: 0s - loss: 0.1986
1085/1149 [==========================>..] - ETA: 0s - loss: 0.1503
 895/1149 [=====================>…] - ETA: 0s - loss: 0.1338
 805/1149 [===================>…] - ETA: 0s - loss: 0.1302
1055/1149 [==========================>…] - ETA: 0s - loss: 0.1273
1120/1148 [===========================>.] - ETA: 0s - loss: 0.0918
1149/1149 [==============================] - 1s 476us/step - loss: 0.1476

 150/1149 [==>…] - ETA: 0s - loss: 0.1882Epoch 7/10

   5/1149 […] - ETA: 0s - loss: 0.1436
 190/1149 [===>…] - ETA: 0s - loss: 0.1862
1148/1148 [==============================] - 1s 469us/step - loss: 0.0913
Epoch 7/15

   5/1148 […] - ETA: 0s - loss: 0.0829
1015/1149 [========================>…] - ETA: 0s - loss: 0.1304
 915/1149 [=====================>…] - ETA: 0s - loss: 0.1325
1149/1149 [==============================] - 1s 442us/step - loss: 0.1277
Epoch 8/10

   5/1149 […] - ETA: 0s - loss: 0.0599
 115/1149 [==>…] - ETA: 0s - loss: 0.1358
 275/1149 [======>…] - ETA: 0s - loss: 0.1445
```

```
 295/1149 [======>…] - ETA: 0s - loss: 0.1926
 125/1148 [==>…] - ETA: 0s - loss: 0.0834
1140/1149 [============================>.] - ETA: 0s - loss: 0.1271
1149/1149 [=============================] - 1s 455us/step - loss: 0.1264


1035/1149 [==========================>…] - ETA: 0s - loss: 0.1297Epoch 10/10


   5/1149 […] - ETA: 0s - loss: 0.3348
 125/1149 [==>…] - ETA: 0s - loss: 0.1845
 210/1149 [====>…] - ETA: 0s - loss: 0.1667
 390/1149 [=========>…] - ETA: 0s - loss: 0.1543
 410/1149 [=========>…] - ETA: 0s - loss: 0.1810
 245/1148 [======>…] - ETA: 0s - loss: 0.0872
1135/1149 [===========================>.] - ETA: 0s - loss: 0.1280
 120/1149 [==>…] - ETA: 0s - loss: 0.1398
 270/1149 [======>…] - ETA: 0s - loss: 0.1456
1149/1149 [=============================] - 1s 452us/step - loss: 0.1271
Epoch 6/15


   5/1149 […] - ETA: 0s - loss: 0.0069
 295/1149 [======>…] - ETA: 0s - loss: 0.1430
 475/1149 [==========>…] - ETA: 0s - loss: 0.1494
 530/1149 [============>…] - ETA: 0s - loss: 0.1754
 365/1148 [========>…] - ETA: 0s - loss: 0.0801
 225/1149 [====>…] - ETA: 0s - loss: 0.1606
 430/1149 [=========>…] - ETA: 0s - loss: 0.1287
 100/1149 [=>…] - ETA: 0s - loss: 0.2044
 565/1149 [=============>…] - ETA: 0s - loss: 0.1369
 400/1149 [=========>…] - ETA: 0s - loss: 0.1712
 645/1149 [===============>…] - ETA: 0s - loss: 0.1918
 465/1148 [==========>…] - ETA: 0s - loss: 0.0790
 335/1149 [=======>…] - ETA: 0s - loss: 0.1594
 560/1149 [============>…] - ETA: 0s - loss: 0.1408
 215/1149 [====>…] - ETA: 0s - loss: 0.1549Epoch 1/15


   5/1149 […] - ETA: 1:16 - loss: 0.3258
 685/1149 [================>…] - ETA: 0s - loss: 0.1285
 505/1149 [===========>…] - ETA: 0s - loss: 0.1632
 750/1149 [=================>…] - ETA: 0s - loss: 0.1957
 580/1148 [==============>…] - ETA: 0s - loss: 0.0813
 465/1149 [==========>…] - ETA: 0s - loss: 0.1475
 620/1149 [===============>…] - ETA: 0s - loss: 0.1398
 365/1149 [========>…] - ETA: 0s - loss: 0.1232
 825/1149 [===================>…] - ETA: 0s - loss: 0.1258
 630/1149 [===============>…] - ETA: 0s - loss: 0.1533
 850/1149 [====================>…] - ETA: 0s - loss: 0.1941
  35/1149 […] - ETA: 12s - loss: 0.9679
 705/1148 [================>…] - ETA: 0s - loss: 0.0909
```

```
 605/1149 [==============>…] - ETA: 0s - loss: 0.1380
 680/1149 [================>…] - ETA: 0s - loss: 0.1342
 505/1149 [============>…] - ETA: 0s - loss: 0.1171
 960/1149 [=======================>…] - ETA: 0s - loss: 0.1259
 770/1149 [===================>…] - ETA: 0s - loss: 0.1610
 955/1149 [=======================>…] - ETA: 0s - loss: 0.1895
  65/1149 [>…] - ETA: 7s - loss: 0.9929
 830/1148 [===================>…] - ETA: 0s - loss: 0.0899
 695/1149 [================>…] - ETA: 0s - loss: 0.1324
 815/1149 [===================>…] - ETA: 0s - loss: 0.1295
 605/1149 [==============>…] - ETA: 0s - loss: 0.1098
1055/1149 [=========================>…] - ETA: 0s - loss: 0.1255
1085/1149 [==========================>..] - ETA: 0s - loss: 0.1829
 905/1149 [=====================>…] - ETA: 0s - loss: 0.1505
 945/1148 [======================>…] - ETA: 0s - loss: 0.0896
 120/1149 [==>…] - ETA: 4s - loss: 0.9839
1149/1149 [=============================] - 1s 468us/step - loss: 0.1789
Epoch 6/15

   5/1149 […] - ETA: 0s - loss: 0.0729
 795/1149 [==================>…] - ETA: 0s - loss: 0.1274
 965/1149 [=======================>…] - ETA: 0s - loss: 0.1273
 695/1149 [================>…] - ETA: 0s - loss: 0.1073
1135/1149 [============================>.] - ETA: 0s - loss: 0.1322
1045/1149 [==========================>…] - ETA: 0s - loss: 0.1462
1149/1149 [=============================] - 1s 455us/step - loss: 0.1318

1075/1148 [==========================>..] - ETA: 0s - loss: 0.0886
 140/1149 [==>…] - ETA: 4s - loss: 1.2011
 905/1149 [=====================>…] - ETA: 0s - loss: 0.1229
 160/1149 [===>…] - ETA: 0s - loss: 0.2020
1090/1149 [==========================>..] - ETA: 0s - loss: 0.1267
 820/1149 [===================>…] - ETA: 0s - loss: 0.1229
1148/1148 [=============================] - 0s 434us/step - loss: 0.0896
Epoch 8/15

   5/1148 […] - ETA: 0s - loss: 0.1227
1145/1149 [============================>.] - ETA: 0s - loss: 0.1421
1149/1149 [=============================] - 1s 452us/step - loss: 0.1425
Epoch 8/10

   5/1149 […] - ETA: 0s - loss: 0.0471
1149/1149 [=============================] - 0s 430us/step - loss: 0.1245

 165/1149 [===>…] - ETA: 3s - loss: 1.1195Epoch 9/10

   5/1149 […] - ETA: 0s - loss: 0.0482
1035/1149 [=========================>…] - ETA: 0s - loss: 0.1265
```

```
 280/1149 [======>…] - ETA: 0s - loss: 0.1847
 980/1149 [=======================>…] - ETA: 0s - loss: 0.1226
 115/1148 [==>…] - ETA: 0s - loss: 0.0931
 130/1149 [==>…] - ETA: 0s - loss: 0.0882
 215/1149 [====>…] - ETA: 2s - loss: 1.1458
 135/1149 [==>…] - ETA: 0s - loss: 0.0919
1149/1149 [=============================] - 1s 437us/step - loss: 0.1230

 400/1149 [========>…] - ETA: 0s - loss: 0.1700
1120/1149 [============================>.] - ETA: 0s - loss: 0.1215
 245/1148 [=====>…] - ETA: 0s - loss: 0.0943
1149/1149 [=============================] - 0s 421us/step - loss: 0.1213

 240/1149 [=====>…] - ETA: 0s - loss: 0.1107Epoch 7/15

   5/1149 […] - ETA: 0s - loss: 0.0974
 310/1149 [=======>…] - ETA: 1s - loss: 1.2430
 250/1149 [=====>…] - ETA: 0s - loss: 0.1059
 490/1149 [==========>…] - ETA: 0s - loss: 0.1620
 375/1148 [========>…] - ETA: 0s - loss: 0.0929
 355/1149 [========>…] - ETA: 0s - loss: 0.1143
 115/1149 [==>…] - ETA: 0s - loss: 0.0902
 450/1149 [=========>…] - ETA: 1s - loss: 1.1713
 365/1149 [========>…] - ETA: 0s - loss: 0.1128
 615/1149 [==============>…] - ETA: 0s - loss: 0.1575
 510/1148 [===========>…] - ETA: 0s - loss: 0.0965
 455/1149 [=========>…] - ETA: 0s - loss: 0.1164
 230/1149 [=====>…] - ETA: 0s - loss: 0.0863
 480/1149 [==========>…] - ETA: 0s - loss: 0.1040
 620/1149 [==============>…] - ETA: 0s - loss: 1.1283
 735/1149 [==================>…] - ETA: 0s - loss: 0.1818
 640/1148 [===============>…] - ETA: 0s - loss: 0.0912
 565/1149 [=============>…] - ETA: 0s - loss: 0.1178
 365/1149 [========>…] - ETA: 0s - loss: 0.0858
 615/1149 [==============>…] - ETA: 0s - loss: 0.1087
 715/1149 [=================>…] - ETA: 0s - loss: 1.1145
 860/1149 [====================>…] - ETA: 0s - loss: 0.1769
 770/1148 [==================>…] - ETA: 0s - loss: 0.0894
 690/1149 [=================>…] - ETA: 0s - loss: 0.1284
 490/1149 [==========>…] - ETA: 0s - loss: 0.1178
 765/1149 [==================>…] - ETA: 0s - loss: 0.1139
 770/1149 [==================>…] - ETA: 0s - loss: 1.1252
1005/1149 [========================>…] - ETA: 0s - loss: 0.1746
 900/1148 [======================>…] - ETA: 0s - loss: 0.0891
 800/1149 [==================>…] - ETA: 0s - loss: 0.1252
 600/1149 [=============>…] - ETA: 0s - loss: 0.1281
 880/1149 [=====================>…] - ETA: 0s - loss: 0.1153
 865/1149 [====================>…] - ETA: 0s - loss: 1.1176
```

```
1105/1149 [==========================>..] - ETA: 0s - loss: 0.1704
1000/1148 [========================>…] - ETA: 0s - loss: 0.0897
1149/1149 [==============================] - 0s 427us/step - loss: 0.1687


 900/1149 [=====================>…] - ETA: 0s - loss: 0.1325Epoch 7/15


   5/1149 […] - ETA: 0s - loss: 0.2468
 700/1149 [=================>…] - ETA: 0s - loss: 0.1232
 965/1149 [========================>…] - ETA: 0s - loss: 0.1172
 965/1149 [========================>…] - ETA: 0s - loss: 1.1114
1105/1148 [==========================>..] - ETA: 0s - loss: 0.0898
 110/1149 [=>…] - ETA: 0s - loss: 0.1455
1010/1149 [=========================>…] - ETA: 0s - loss: 0.1284
 800/1149 [==================>…] - ETA: 0s - loss: 0.1231
1148/1148 [==============================] - 0s 418us/step - loss: 0.0883


1070/1149 [==========================>…] - ETA: 0s - loss: 0.1235Epoch 9/15


   5/1148 […] - ETA: 0s - loss: 0.0523
1070/1149 [==========================>…] - ETA: 0s - loss: 1.0759
1149/1149 [==============================] - 1s 436us/step - loss: 0.1229
Epoch 10/10


   5/1149 […] - ETA: 0s - loss: 0.0092
1149/1149 [==============================] - 1s 967us/step - loss: 1.0496
Epoch 2/15


   5/1149 […] - ETA: 0s - loss: 0.5012
 225/1149 [====>…] - ETA: 0s - loss: 0.1312
1110/1149 [==========================>..] - ETA: 0s - loss: 0.1416
 915/1149 [=====================>…] - ETA: 0s - loss: 0.1204
 110/1148 [=>…] - ETA: 0s - loss: 0.0683
1149/1149 [==============================] - 1s 465us/step - loss: 0.1411
Epoch 9/10


   5/1149 […] - ETA: 0s - loss: 0.1046
 110/1149 [=>…] - ETA: 0s - loss: 0.1112
 130/1149 [==>…] - ETA: 0s - loss: 0.8410
 340/1149 [=======>…] - ETA: 0s - loss: 0.1669
1015/1149 [=======================>…] - ETA: 0s - loss: 0.1215
 215/1148 [====>…] - ETA: 0s - loss: 0.0783
 110/1149 [=>…] - ETA: 0s - loss: 0.0948
 225/1149 [====>…] - ETA: 0s - loss: 0.0992
 250/1149 [=====>…] - ETA: 0s - loss: 0.7550
 440/1149 [=========>…] - ETA: 0s - loss: 0.1750
1140/1149 [============================>.] - ETA: 0s - loss: 0.1202
 305/1148 [======>…] - ETA: 0s - loss: 0.0762
1149/1149 [==============================] - 1s 451us/step - loss: 0.1196
```

```
Epoch 8/15

   5/1149 […] - ETA: 0s - loss: 0.3709
 215/1149 [====>…] - ETA: 0s - loss: 0.0945
 345/1149 [========>…] - ETA: 0s - loss: 0.1102
 370/1149 [========>…] - ETA: 0s - loss: 0.7430
 550/1149 [=============>…] - ETA: 0s - loss: 0.1686
 405/1148 [=========>…] - ETA: 0s - loss: 0.0745
 130/1149 [==>…] - ETA: 0s - loss: 0.1658
 320/1149 [=======>…] - ETA: 0s - loss: 0.1068Epoch 1/15

   5/1149 […] - ETA: 1:17 - loss: 1.3059
 460/1149 [==========>…] - ETA: 0s - loss: 0.1317
 500/1149 [============>…] - ETA: 0s - loss: 0.6476
 670/1149 [================>…] - ETA: 0s - loss: 0.1596
 495/1148 [==========>…] - ETA: 0s - loss: 0.0751
 260/1149 [=====>…] - ETA: 0s - loss: 0.1260
 455/1149 [=========>…] - ETA: 0s - loss: 0.1459
  60/1149 [>…] - ETA: 7s - loss: 0.7883
 595/1149 [=============>…] - ETA: 0s - loss: 0.1330
 610/1149 [=============>…] - ETA: 0s - loss: 0.6785
 820/1149 [====================>…] - ETA: 0s - loss: 0.1547
 620/1148 [===============>…] - ETA: 0s - loss: 0.0801
 410/1149 [=========>…] - ETA: 0s - loss: 0.1244
 120/1149 [==>…] - ETA: 3s - loss: 0.9564
 555/1149 [=============>…] - ETA: 0s - loss: 0.1570
 730/1149 [==================>…] - ETA: 0s - loss: 0.6419
 725/1149 [==================>…] - ETA: 0s - loss: 0.1341
 950/1149 [=======================>…] - ETA: 0s - loss: 0.1622
 735/1148 [==================>…] - ETA: 0s - loss: 0.0802
 520/1149 [===========>…] - ETA: 0s - loss: 0.1191
 680/1149 [================>…] - ETA: 0s - loss: 0.1519
 145/1149 [==>…] - ETA: 3s - loss: 1.0120
 845/1149 [=====================>…] - ETA: 0s - loss: 0.5889
 825/1149 [====================>…] - ETA: 0s - loss: 0.1311
1090/1149 [==========================>..] - ETA: 0s - loss: 0.1637
 855/1148 [=====================>…] - ETA: 0s - loss: 0.0802Epoch 1/20

   5/1148 […] - ETA: 1:24 - loss: 0.0957
 665/1149 [===============>…] - ETA: 0s - loss: 0.1230
1149/1149 [=============================] - 0s 420us/step - loss: 0.1609
Epoch 8/15

   5/1149 […] - ETA: 0s - loss: 0.0554
 785/1149 [===================>…] - ETA: 0s - loss: 0.1415
 215/1149 [====>…] - ETA: 2s - loss: 1.0946
 945/1149 [=======================>…] - ETA: 0s - loss: 0.1257
 975/1149 [=======================>…] - ETA: 0s - loss: 0.5592
```

```
 990/1148 [========================>…] - ETA: 0s - loss: 0.0829
  20/1148 […] - ETA: 24s - loss: 0.4073
 805/1149 [===================>…] - ETA: 0s - loss: 0.1165
 140/1149 [==>…] - ETA: 0s - loss: 0.1469
 900/1149 [=====================>…] - ETA: 0s - loss: 0.1387
 315/1149 [=======>…] - ETA: 1s - loss: 1.0556
1050/1149 [=========================>…] - ETA: 0s - loss: 0.1252
1115/1149 [===========================>.] - ETA: 0s - loss: 0.5256
1115/1148 [===========================>.] - ETA: 0s - loss: 0.0871
 920/1149 [======================>…] - ETA: 0s - loss: 0.1135
1149/1149 [=============================] - 0s 415us/step - loss: 0.5146


  60/1148 [>…] - ETA: 8s - loss: 0.3654 Epoch 3/15


   5/1149 […] - ETA: 0s - loss: 0.6576
1148/1148 [=============================] - 1s 456us/step - loss: 0.0871
Epoch 10/15


   5/1148 […] - ETA: 0s - loss: 0.0685
 270/1149 [======>…] - ETA: 0s - loss: 0.1326
1030/1149 [========================>…] - ETA: 0s - loss: 0.1404
 400/1149 [=========>…] - ETA: 1s - loss: 1.0846
1149/1149 [=============================] - 1s 437us/step - loss: 0.1215


1040/1149 [=========================>…] - ETA: 0s - loss: 0.1110
 105/1149 [=>…] - ETA: 0s - loss: 0.2795
 135/1148 [==>…] - ETA: 0s - loss: 0.0723
 100/1148 [=>…] - ETA: 5s - loss: 0.3616
1149/1149 [=============================] - 1s 445us/step - loss: 0.1389


 385/1149 [=========>…] - ETA: 0s - loss: 0.1268Epoch 10/10


   5/1149 […] - ETA: 0s - loss: 0.0694
 515/1149 [============>…] - ETA: 0s - loss: 1.0898
1149/1149 [=============================] - 0s 398us/step - loss: 0.1166
Epoch 9/15


   5/1149 […] - ETA: 0s - loss: 0.0732
 235/1149 [=====>…] - ETA: 0s - loss: 0.2539
 280/1148 [======>…] - ETA: 0s - loss: 0.0875
 515/1149 [============>…] - ETA: 0s - loss: 0.1472
 175/1148 [===>…] - ETA: 3s - loss: 0.3491
 140/1149 [==>…] - ETA: 0s - loss: 0.0938
 645/1149 [==============>…] - ETA: 0s - loss: 1.0227
 130/1149 [==>…] - ETA: 0s - loss: 0.1105
 370/1149 [========>…] - ETA: 0s - loss: 0.2260
 405/1148 [=========>…] - ETA: 0s - loss: 0.0894
 660/1149 [===============>…] - ETA: 0s - loss: 0.1575
```

```
 265/1149 [=====>…] - ETA: 0s - loss: 0.0917
 755/1149 [=================>…] - ETA: 0s - loss: 1.0473
 250/1148 [=====>…] - ETA: 2s - loss: 0.3510
 260/1149 [=====>…] - ETA: 0s - loss: 0.1452
 520/1148 [===========>…] - ETA: 0s - loss: 0.0927
 495/1149 [==========>…] - ETA: 0s - loss: 0.2434
 760/1149 [=================>…] - ETA: 0s - loss: 0.1531
 385/1149 [========>…] - ETA: 0s - loss: 0.1227
 870/1149 [====================>…] - ETA: 0s - loss: 0.9981
 315/1148 [=======>…] - ETA: 1s - loss: 0.3512
 395/1149 [========>…] - ETA: 0s - loss: 0.1224
 630/1149 [==============>…] - ETA: 0s - loss: 0.2283
 625/1148 [==============>…] - ETA: 0s - loss: 0.0911
 885/1149 [=====================>…] - ETA: 0s - loss: 0.1570
 500/1149 [===========>…] - ETA: 0s - loss: 0.1318
 965/1149 [======================>…] - ETA: 0s - loss: 1.0403
 395/1148 [========>…] - ETA: 1s - loss: 0.3348
 530/1149 [============>…] - ETA: 0s - loss: 0.1172
 755/1149 [=================>…] - ETA: 0s - loss: 0.2190
 745/1148 [=================>…] - ETA: 0s - loss: 0.0899
1005/1149 [=======================>…] - ETA: 0s - loss: 0.1552
 630/1149 [==============>…] - ETA: 0s - loss: 0.1267
1040/1149 [=========================>…] - ETA: 0s - loss: 1.0135
 480/1148 [==========>…] - ETA: 1s - loss: 0.3337
 650/1149 [==============>…] - ETA: 0s - loss: 0.1110
 865/1149 [====================>…] - ETA: 0s - loss: 0.2137
1120/1149 [============================>.] - ETA: 0s - loss: 0.1551
 860/1148 [====================>…] - ETA: 0s - loss: 0.0883
 740/1149 [=================>…] - ETA: 0s - loss: 0.1375
1145/1149 [============================>.] - ETA: 0s - loss: 1.0168
1149/1149 [=============================] - 1s 875us/step - loss: 1.0142
Epoch 2/15

   5/1149 […] - ETA: 0s - loss: 0.1035
 595/1148 [=============>…] - ETA: 0s - loss: 0.3300
1149/1149 [=============================] - 0s 412us/step - loss: 0.1547
Epoch 9/15

   5/1149 […] - ETA: 0s - loss: 0.1524
 770/1149 [=================>…] - ETA: 0s - loss: 0.1045
 970/1149 [======================>…] - ETA: 0s - loss: 0.2076
 970/1148 [======================>…] - ETA: 0s - loss: 0.0886
 845/1149 [====================>…] - ETA: 0s - loss: 0.1352
 130/1149 [==>…] - ETA: 0s - loss: 0.7572
 715/1148 [================>…] - ETA: 0s - loss: 0.3161
 110/1149 [=>…] - ETA: 0s - loss: 0.1175
 905/1149 [=====================>…] - ETA: 0s - loss: 0.1081
1075/1149 [==========================>..] - ETA: 0s - loss: 0.2003
```

```
 960/1149 [========================>…] - ETA: 0s - loss: 0.1296
1080/1148 [===========================>..] - ETA: 0s - loss: 0.0858
 245/1149 [=====>…] - ETA: 0s - loss: 0.8915
 850/1148 [====================>…] - ETA: 0s - loss: 0.2977
 225/1149 [====>…] - ETA: 0s - loss: 0.1076
1149/1149 [=============================] - 0s 430us/step - loss: 0.1969
Epoch 4/15

   5/1149 […] - ETA: 0s - loss: 0.3847
1148/1148 [=============================] - 0s 433us/step - loss: 0.0864
Epoch 11/15

   5/1148 […] - ETA: 0s - loss: 0.2458
 970/1149 [========================>…] - ETA: 0s - loss: 0.1081
1065/1149 [==========================>…] - ETA: 0s - loss: 0.1237
 390/1149 [=========>…] - ETA: 0s - loss: 0.7804
 975/1148 [========================>…] - ETA: 0s - loss: 0.2816
 350/1149 [========>…] - ETA: 0s - loss: 0.1509
 125/1149 [==>…] - ETA: 0s - loss: 0.2038
 125/1148 [==>…] - ETA: 0s - loss: 0.0878
1149/1149 [=============================] - 0s 434us/step - loss: 0.1359

1015/1149 [========================>…] - ETA: 0s - loss: 0.1141
 510/1149 [============>…] - ETA: 0s - loss: 0.7363
1105/1148 [===========================>..] - ETA: 0s - loss: 0.2707
 475/1149 [==========>…] - ETA: 0s - loss: 0.1469
1148/1148 [=============================] - 1s 940us/step - loss: 0.2661
Epoch 2/20

   5/1148 […] - ETA: 0s - loss: 0.1524
 225/1149 [====>…] - ETA: 0s - loss: 0.1757
 245/1148 [=====>…] - ETA: 0s - loss: 0.0779
1110/1149 [===========================>..] - ETA: 0s - loss: 0.1150
 645/1149 [==============>…] - ETA: 0s - loss: 0.7288
1149/1149 [=============================] - 1s 465us/step - loss: 0.1142
Epoch 1/20

   5/1149 […] - ETA: 1:04 - loss: 0.7333Epoch 10/15

   5/1149 […] - ETA: 0s - loss: 0.1495
 610/1149 [==============>…] - ETA: 0s - loss: 0.1512
 150/1148 [==>…] - ETA: 0s - loss: 0.1751
 345/1149 [========>…] - ETA: 0s - loss: 0.2095
 365/1148 [========>…] - ETA: 0s - loss: 0.0806
 790/1149 [==================>…] - ETA: 0s - loss: 0.6692
 160/1149 [===>…] - ETA: 0s - loss: 0.1075
  75/1149 [>…] - ETA: 4s - loss: 1.0622
 730/1149 [==================>…] - ETA: 0s - loss: 0.1488
```

```
 285/1148 [======>…] - ETA: 0s - loss: 0.1760
 460/1149 [==========>…] - ETA: 0s - loss: 0.1923
 480/1148 [==========>…] - ETA: 0s - loss: 0.0810
 925/1149 [======================>…] - ETA: 0s - loss: 0.6498
 315/1149 [=======>…] - ETA: 0s - loss: 0.0991
 155/1149 [===>…] - ETA: 2s - loss: 1.1687
 840/1149 [====================>…] - ETA: 0s - loss: 0.1565
 400/1148 [=========>…] - ETA: 0s - loss: 0.1724
 580/1149 [=============>…] - ETA: 0s - loss: 0.1923
 595/1148 [=============>…] - ETA: 0s - loss: 0.0881
1030/1149 [=========================>…] - ETA: 0s - loss: 0.6295
 455/1149 [==========>…] - ETA: 0s - loss: 0.0999
 205/1149 [====>…] - ETA: 2s - loss: 1.0375
 960/1149 [=======================>…] - ETA: 0s - loss: 0.1518
 680/1149 [================>…] - ETA: 0s - loss: 0.1817
 515/1148 [===========>…] - ETA: 0s - loss: 0.1618
 705/1148 [================>…] - ETA: 0s - loss: 0.0868
 605/1149 [=============>…] - ETA: 0s - loss: 0.0961
1145/1149 [===========================>.] - ETA: 0s - loss: 0.6048
1149/1149 [============================] - 0s 404us/step - loss: 0.6035
Epoch 3/15

   5/1149 […] - ETA: 0s - loss: 0.7476
1080/1149 [===========================>..] - ETA: 0s - loss: 0.1503
 270/1149 [======>…] - ETA: 1s - loss: 1.0536
 800/1149 [===================>…] - ETA: 0s - loss: 0.1731
 625/1148 [==============>…] - ETA: 0s - loss: 0.1546
 815/1148 [===================>…] - ETA: 0s - loss: 0.0865
1149/1149 [============================] - 0s 427us/step - loss: 0.1504
Epoch 10/15

   5/1149 […] - ETA: 0s - loss: 0.0375
 710/1149 [================>…] - ETA: 0s - loss: 0.1143
 115/1149 [==>…] - ETA: 0s - loss: 0.3737
 330/1149 [=======>…] - ETA: 1s - loss: 1.1435
 945/1149 [======================>…] - ETA: 0s - loss: 0.1657
 755/1148 [=================>…] - ETA: 0s - loss: 0.1520
 930/1148 [======================>…] - ETA: 0s - loss: 0.0845
 135/1149 [==>…] - ETA: 0s - loss: 0.1565
 820/1149 [===================>…] - ETA: 0s - loss: 0.1110
 235/1149 [=====>…] - ETA: 0s - loss: 0.3657
 410/1149 [=========>…] - ETA: 1s - loss: 1.2049
1050/1149 [========================>…] - ETA: 0s - loss: 0.1628
 895/1148 [=====================>…] - ETA: 0s - loss: 0.1463
1035/1148 [========================>…] - ETA: 0s - loss: 0.0854
 255/1149 [=====>…] - ETA: 0s - loss: 0.1540
 915/1149 [=====================>…] - ETA: 0s - loss: 0.1172
 365/1149 [========>…] - ETA: 0s - loss: 0.3610
```

```
1149/1149 [==============================] - 1s 441us/step - loss: 0.1596

 465/1149 [==========>…] - ETA: 0s - loss: 1.2621Epoch 5/15

   5/1149 […] - ETA: 0s - loss: 0.0740
1015/1148 [=========================>…] - ETA: 0s - loss: 0.1396
1148/1148 [==============================] - 1s 445us/step - loss: 0.0855
Epoch 12/15

   5/1148 […] - ETA: 0s - loss: 0.0146
 380/1149 [========>…] - ETA: 0s - loss: 0.1400
1040/1149 [==========================>…] - ETA: 0s - loss: 0.1179
 500/1149 [============>…] - ETA: 0s - loss: 0.3360
 135/1149 [==>…] - ETA: 0s - loss: 0.1022
 545/1149 [=============>…] - ETA: 0s - loss: 1.2519
1130/1148 [=============================>.] - ETA: 0s - loss: 0.1367
 115/1148 [==>…] - ETA: 0s - loss: 0.0788
1148/1148 [==============================] - 0s 414us/step - loss: 0.1363
Epoch 3/20

   5/1148 […] - ETA: 0s - loss: 0.1665
1149/1149 [==============================] - 0s 390us/step - loss: 0.1135

 485/1149 [==========>…] - ETA: 0s - loss: 0.1373Epoch 11/15

   5/1149 […] - ETA: 0s - loss: 0.0558
 640/1149 [==============>…] - ETA: 0s - loss: 0.3146
 600/1149 [==============>…] - ETA: 0s - loss: 1.2351
 260/1149 [=====>…] - ETA: 0s - loss: 0.1716
 235/1148 [=====>…] - ETA: 0s - loss: 0.0797
  95/1148 [=>…] - ETA: 0s - loss: 0.1042
 620/1149 [==============>…] - ETA: 0s - loss: 0.1335
 125/1149 [==>…] - ETA: 0s - loss: 0.1222
 730/1149 [=================>…] - ETA: 0s - loss: 0.3020
 690/1149 [=================>…] - ETA: 0s - loss: 1.1478
 385/1149 [=========>…] - ETA: 0s - loss: 0.1567
 390/1148 [=========>…] - ETA: 0s - loss: 0.0757Epoch 1/20

   5/1149 […] - ETA: 1:06 - loss: 3.7830
 170/1148 [===>…] - ETA: 0s - loss: 0.1059
 745/1149 [=================>…] - ETA: 0s - loss: 0.1336
 265/1149 [=====>…] - ETA: 0s - loss: 0.1008
 835/1149 [===================>…] - ETA: 0s - loss: 0.2913
 800/1149 [===================>…] - ETA: 0s - loss: 1.1308
 510/1149 [============>…] - ETA: 0s - loss: 0.1542
 505/1148 [============>…] - ETA: 0s - loss: 0.0741
  40/1149 [>…] - ETA: 9s - loss: 1.3252
 290/1148 [=====>…] - ETA: 0s - loss: 0.0978
```

```
 405/1149 [=========>…] - ETA: 0s - loss: 0.0945
 880/1149 [====================>…] - ETA: 0s - loss: 0.1297
 950/1149 [=======================>…] - ETA: 0s - loss: 0.2810
 935/1149 [=======================>…] - ETA: 0s - loss: 1.1326
 600/1149 [=============>…] - ETA: 0s - loss: 0.1497
 610/1148 [=============>…] - ETA: 0s - loss: 0.0763
 405/1148 [=========>…] - ETA: 0s - loss: 0.0946
  70/1149 [>…] - ETA: 6s - loss: 1.3658
 495/1149 [==========>…] - ETA: 0s - loss: 0.0928
 990/1149 [=======================>…] - ETA: 0s - loss: 0.1450
1080/1149 [===========================>..] - ETA: 0s - loss: 0.2768
1050/1149 [===========================>…] - ETA: 0s - loss: 1.0947
 725/1149 [=================>…] - ETA: 0s - loss: 0.1599
 720/1148 [=================>…] - ETA: 0s - loss: 0.0800
1149/1149 [=============================] - 0s 425us/step - loss: 0.2699
Epoch 4/15

   5/1149 […] - ETA: 0s - loss: 0.1093
 125/1149 [==>…] - ETA: 3s - loss: 1.3923
 530/1148 [============>…] - ETA: 0s - loss: 0.0917
 615/1149 [===============>…] - ETA: 0s - loss: 0.0976
1120/1149 [============================>.] - ETA: 0s - loss: 0.1488
1149/1149 [=============================] - 1s 871us/step - loss: 1.1230
Epoch 2/20

   5/1149 […] - ETA: 0s - loss: 1.1549
1149/1149 [=============================] - 0s 418us/step - loss: 0.1476
Epoch 11/15

   5/1149 […] - ETA: 0s - loss: 0.1471
 845/1149 [=====================>…] - ETA: 0s - loss: 0.1528
 805/1148 [====================>…] - ETA: 0s - loss: 0.0851
 155/1149 [===>…] - ETA: 3s - loss: 1.4740
 135/1149 [==>…] - ETA: 0s - loss: 0.1639
 655/1148 [================>…] - ETA: 0s - loss: 0.0943
 750/1149 [==================>…] - ETA: 0s - loss: 0.1082
 140/1149 [==>…] - ETA: 0s - loss: 0.9604
 125/1149 [==>…] - ETA: 0s - loss: 0.1171
 955/1149 [======================>…] - ETA: 0s - loss: 0.1500
 920/1148 [======================>…] - ETA: 0s - loss: 0.0843
 205/1149 [====>…] - ETA: 2s - loss: 1.5141
 245/1149 [=====>…] - ETA: 0s - loss: 0.1937
 765/1148 [==================>…] - ETA: 0s - loss: 0.0901
 870/1149 [====================>…] - ETA: 0s - loss: 0.1171
 260/1149 [=====>…] - ETA: 0s - loss: 0.9650
 245/1149 [=====>…] - ETA: 0s - loss: 0.1302
1080/1149 [===========================>..] - ETA: 0s - loss: 0.1475
1045/1148 [=========================>…] - ETA: 0s - loss: 0.0842
```

```
 370/1149 [========>…] - ETA: 0s - loss: 0.2060
 260/1149 [=====>…] - ETA: 2s - loss: 1.2963
 875/1148 [====================>…] - ETA: 0s - loss: 0.0934
1000/1149 [=========================>…] - ETA: 0s - loss: 0.1136
1149/1149 [==============================] - 0s 434us/step - loss: 0.1447
Epoch 6/15

   5/1149 […] - ETA: 0s - loss: 0.2897
 380/1149 [========>…] - ETA: 0s - loss: 0.8306
 365/1149 [========>…] - ETA: 0s - loss: 0.1323
1148/1148 [==============================] - 1s 442us/step - loss: 0.0847
Epoch 13/15

   5/1148 […] - ETA: 0s - loss: 0.1088
 485/1149 [===========>…] - ETA: 0s - loss: 0.2110
 325/1149 [=======>…] - ETA: 1s - loss: 1.1875
 980/1148 [=======================>…] - ETA: 0s - loss: 0.0992
1135/1149 [============================>.] - ETA: 0s - loss: 0.1110
1149/1149 [==============================] - 0s 412us/step - loss: 0.1116
Epoch 12/15

   5/1149 […] - ETA: 0s - loss: 0.0793
 125/1149 [==>…] - ETA: 0s - loss: 0.1229
 460/1149 [==========>…] - ETA: 0s - loss: 0.8522
 495/1149 [==========>…] - ETA: 0s - loss: 0.1311
 150/1148 [==>…] - ETA: 0s - loss: 0.1142
 605/1149 [=============>…] - ETA: 0s - loss: 0.1980
 375/1149 [========>…] - ETA: 1s - loss: 1.2526
1105/1148 [===========================>..] - ETA: 0s - loss: 0.0967
 140/1149 [==>…] - ETA: 0s - loss: 0.0905
 225/1149 [====>…] - ETA: 0s - loss: 0.1365
 555/1149 [=============>…] - ETA: 0s - loss: 0.9250
 605/1149 [=============>…] - ETA: 0s - loss: 0.1280
1148/1148 [==============================] - 1s 470us/step - loss: 0.0963
Epoch 4/20

   5/1148 […] - ETA: 0s - loss: 0.0089
 275/1148 [======>…] - ETA: 0s - loss: 0.0904
 720/1149 [=================>…] - ETA: 0s - loss: 0.2034
 445/1149 [=========>…] - ETA: 1s - loss: 1.2278
 275/1149 [======>…] - ETA: 0s - loss: 0.0966
 345/1149 [========>…] - ETA: 0s - loss: 0.1399
 685/1149 [================>…] - ETA: 0s - loss: 0.9014
 715/1149 [================>…] - ETA: 0s - loss: 0.1307
  90/1148 [=>…] - ETA: 0s - loss: 0.0962
 400/1148 [=========>…] - ETA: 0s - loss: 0.0907
 835/1149 [====================>…] - ETA: 0s - loss: 0.1941
 520/1149 [===========>…] - ETA: 0s - loss: 1.1819
```

```
 360/1149 [========>…] - ETA: 0s - loss: 0.1081
 420/1149 [=========>…] - ETA: 0s - loss: 0.1347
 790/1149 [==================>…] - ETA: 0s - loss: 0.8935
 790/1149 [==================>…] - ETA: 0s - loss: 0.1318
 170/1148 [===>…] - ETA: 0s - loss: 0.0904
 900/1149 [=====================>…] - ETA: 0s - loss: 0.1881
 565/1149 [============>…] - ETA: 0s - loss: 1.1733
 475/1148 [==========>…] - ETA: 0s - loss: 0.0880
 465/1149 [==========>…] - ETA: 0s - loss: 0.1338
 420/1149 [========>…] - ETA: 0s - loss: 0.1081
 855/1149 [====================>…] - ETA: 0s - loss: 0.8732
 900/1149 [=====================>…] - ETA: 0s - loss: 0.1279
 265/1148 [=====>…] - ETA: 0s - loss: 0.0907
 970/1149 [======================>…] - ETA: 0s - loss: 0.1834
 645/1149 [==============>…] - ETA: 0s - loss: 1.1674
 530/1148 [===========>…] - ETA: 0s - loss: 0.0916
 530/1149 [===========>…] - ETA: 0s - loss: 0.1322
 495/1149 [==========>…] - ETA: 0s - loss: 0.1042
 935/1149 [======================>…] - ETA: 0s - loss: 0.8206
1010/1149 [=========================>…] - ETA: 0s - loss: 0.1418
 385/1148 [========>…] - ETA: 0s - loss: 0.0954
1055/1149 [==========================>…] - ETA: 0s - loss: 0.1844
 750/1149 [=================>…] - ETA: 0s - loss: 1.1340
 635/1148 [==============>…] - ETA: 0s - loss: 0.0886
 620/1149 [==============>…] - ETA: 0s - loss: 0.1297
 595/1149 [=============>…] - ETA: 0s - loss: 0.1012
1045/1149 [=========================>…] - ETA: 0s - loss: 0.8084
 475/1148 [==========>…] - ETA: 0s - loss: 0.0958
1110/1149 [==========================>..] - ETA: 0s - loss: 0.1405
1149/1149 [============================] - 1s 482us/step - loss: 0.1815
Epoch 5/15

   5/1149 […] - ETA: 0s - loss: 0.0929
 875/1149 [====================>…] - ETA: 0s - loss: 1.1324
 745/1148 [==================>…] - ETA: 0s - loss: 0.0866
1149/1149 [============================] - 1s 483us/step - loss: 0.1442

1149/1149 [============================] - 1s 486us/step - loss: 0.7905
Epoch 12/15

   5/1149 […] - ETA: 0s - loss: 0.1086
 745/1149 [=================>…] - ETA: 0s - loss: 0.1336
 725/1149 [=================>…] - ETA: 0s - loss: 0.0995Epoch 3/20

   5/1149 […] - ETA: 1s - loss: 0.8392
 550/1148 [============>…] - ETA: 0s - loss: 0.0926
 125/1149 [==>…] - ETA: 0s - loss: 0.2127
 860/1148 [====================>…] - ETA: 0s - loss: 0.0888
```

```
1005/1149 [=========================>…] – ETA: 0s – loss: 1.1527
  80/1149 [=>…] – ETA: 0s – loss: 0.1344
 865/1149 [=====================>…] – ETA: 0s – loss: 0.1333
 130/1149 [==>…] – ETA: 0s – loss: 0.5569
 860/1149 [====================>…] – ETA: 0s – loss: 0.1079
 630/1148 [==============>…] – ETA: 0s – loss: 0.0908
 250/1149 [=====>…] – ETA: 0s – loss: 0.2256
1120/1149 [===========================>.] – ETA: 0s – loss: 1.1335
 970/1148 [=======================>…] – ETA: 0s – loss: 0.0874
 240/1149 [=====>…] – ETA: 0s – loss: 0.6471
 210/1149 [====>…] – ETA: 0s – loss: 0.1372
 985/1149 [=======================>…] – ETA: 0s – loss: 0.1309
 960/1149 [=======================>…] – ETA: 0s – loss: 0.1078
1149/1149 [============================] – 1s 984us/step – loss: 1.1205
Epoch 2/20

   5/1149 […] – ETA: 0s – loss: 0.3395
 740/1148 [==================>…] – ETA: 0s – loss: 0.0897
 350/1149 [========>…] – ETA: 0s – loss: 0.1932
1090/1148 [===========================>..] – ETA: 0s – loss: 0.0846
 340/1149 [=======>…] – ETA: 0s – loss: 0.6014
1115/1149 [===========================>.] – ETA: 0s – loss: 0.1287
 350/1149 [========>…] – ETA: 0s – loss: 0.1353
1065/1149 [=========================>…] – ETA: 0s – loss: 0.1113
 100/1149 [=>…] – ETA: 0s – loss: 1.1133
 860/1148 [====================>…] – ETA: 0s – loss: 0.0913
1148/1148 [============================] – 1s 488us/step – loss: 0.0843
Epoch 14/15

   5/1148 […] – ETA: 0s – loss: 0.1498
1149/1149 [============================] – 1s 508us/step – loss: 0.1386
Epoch 7/15

   5/1149 […] – ETA: 0s – loss: 0.0650
 450/1149 [=========>…] – ETA: 0s – loss: 0.1888
1149/1149 [============================] – 1s 486us/step – loss: 0.1107
Epoch 13/15

   5/1149 […] – ETA: 0s – loss: 0.0498
 480/1149 [==========>…] – ETA: 0s – loss: 0.1310
 450/1149 [=========>…] – ETA: 0s – loss: 0.5445
 210/1149 [====>…] – ETA: 0s – loss: 0.8773
 975/1148 [=======================>…] – ETA: 0s – loss: 0.0911
 105/1148 [=>…] – ETA: 0s – loss: 0.0727
 100/1149 [=>…] – ETA: 0s – loss: 0.0955
 585/1149 [==============>…] – ETA: 0s – loss: 0.1779
 115/1149 [==>…] – ETA: 0s – loss: 0.0736
 600/1149 [=============>…] – ETA: 0s – loss: 0.1215
```

```
 550/1149 [=============>…] - ETA: 0s - loss: 0.4968
 325/1149 [=======>…] - ETA: 0s - loss: 0.8714
1095/1148 [============================>..] - ETA: 0s - loss: 0.0880
 205/1148 [====>…] - ETA: 0s - loss: 0.0763
 205/1149 [====>…] - ETA: 0s - loss: 0.1102
 710/1149 [================>…] - ETA: 0s - loss: 0.1823
1148/1148 [==============================] - 1s 516us/step - loss: 0.0876
Epoch 5/20

   5/1148 […] - ETA: 0s - loss: 0.0264
 230/1149 [=====>…] - ETA: 0s - loss: 0.1151
 650/1149 [==============>…] - ETA: 0s - loss: 0.4834
 725/1149 [=================>…] - ETA: 0s - loss: 0.1426
 440/1149 [=========>…] - ETA: 0s - loss: 0.8952
 320/1148 [=======>…] - ETA: 0s - loss: 0.0824
 320/1149 [=======>…] - ETA: 0s - loss: 0.1116
 800/1149 [==================>…] - ETA: 0s - loss: 0.1760
 115/1148 [==>…] - ETA: 0s - loss: 0.0782
 770/1149 [==================>…] - ETA: 0s - loss: 0.4642
 335/1149 [=======>…] - ETA: 0s - loss: 0.1098
 820/1149 [===================>…] - ETA: 0s - loss: 0.1402
 565/1149 [=============>…] - ETA: 0s - loss: 0.8535
 445/1148 [=========>…] - ETA: 0s - loss: 0.0912
 445/1149 [=========>…] - ETA: 0s - loss: 0.1054
 865/1149 [====================>…] - ETA: 0s - loss: 0.1731
 225/1148 [====>…] - ETA: 0s - loss: 0.0762
 430/1149 [=========>…] - ETA: 0s - loss: 0.1050
 910/1149 [=====================>…] - ETA: 0s - loss: 0.4281
 905/1149 [=====================>…] - ETA: 0s - loss: 0.1381
 705/1149 [================>…] - ETA: 0s - loss: 0.7994
 570/1148 [============>…] - ETA: 0s - loss: 0.0911
 585/1149 [=============>…] - ETA: 0s - loss: 0.1255
 930/1149 [======================>…] - ETA: 0s - loss: 0.1696
 340/1148 [=======>…] - ETA: 0s - loss: 0.0739
 540/1149 [=============>…] - ETA: 0s - loss: 0.1002
1030/1149 [========================>…] - ETA: 0s - loss: 0.1434
1030/1149 [========================>…] - ETA: 0s - loss: 0.4371
 805/1149 [==================>…] - ETA: 0s - loss: 0.7562
 670/1148 [================>…] - ETA: 0s - loss: 0.0886
 700/1149 [================>…] - ETA: 0s - loss: 0.1455
1075/1149 [===========================>..] - ETA: 0s - loss: 0.1685
 455/1148 [=========>…] - ETA: 0s - loss: 0.0755
1149/1149 [==============================] - 1s 447us/step - loss: 0.1421
Epoch 13/15

   5/1149 […] - ETA: 0s - loss: 0.2336
 660/1149 [================>…] - ETA: 0s - loss: 0.1063
1145/1149 [============================>.] - ETA: 0s - loss: 0.4311
```

```
1149/1149 [==============================] - 1s 476us/step - loss: 0.1642
Epoch 6/15

   5/1149 […] - ETA: 0s - loss: 0.0798
1149/1149 [==============================] - 1s 455us/step - loss: 0.4331

 870/1149 [=====================>…] - ETA: 0s - loss: 0.7338Epoch 4/20

   5/1149 […] - ETA: 0s - loss: 0.0644
 750/1148 [==================>…] - ETA: 0s - loss: 0.0891
 795/1149 [===================>…] - ETA: 0s - loss: 0.1419
 575/1148 [==============>…] - ETA: 0s - loss: 0.0773
 120/1149 [==>…] - ETA: 0s - loss: 0.1297
 815/1149 [===================>…] - ETA: 0s - loss: 0.1054
 150/1149 [==>…] - ETA: 0s - loss: 0.1680
 945/1149 [======================>…] - ETA: 0s - loss: 0.7048
 105/1149 [=>…] - ETA: 0s - loss: 0.2349
 855/1148 [====================>…] - ETA: 0s - loss: 0.0879
 915/1149 [======================>…] - ETA: 0s - loss: 0.1389
 695/1148 [================>…] - ETA: 0s - loss: 0.0791
 220/1149 [====>…] - ETA: 0s - loss: 0.1565
 910/1149 [======================>…] - ETA: 0s - loss: 0.1161
 235/1149 [=====>…] - ETA: 0s - loss: 0.1599
1085/1149 [==========================>..] - ETA: 0s - loss: 0.6507
 195/1149 [====>…] - ETA: 0s - loss: 0.2813
 985/1148 [=======================>…] - ETA: 0s - loss: 0.0862
1050/1149 [=========================>…] - ETA: 0s - loss: 0.1369
1149/1149 [==============================] - 1s 471us/step - loss: 0.6430
Epoch 3/20

   5/1149 […] - ETA: 0s - loss: 0.1645
 820/1148 [====================>…] - ETA: 0s - loss: 0.0784
 305/1149 [======>…] - ETA: 0s - loss: 0.1384
1015/1149 [========================>…] - ETA: 0s - loss: 0.1152
 340/1149 [=======>…] - ETA: 0s - loss: 0.1631
 280/1149 [======>…] - ETA: 0s - loss: 0.3115
1149/1149 [==============================] - 1s 437us/step - loss: 0.1340
Epoch 8/15

   5/1149 […] - ETA: 0s - loss: 0.0931
1120/1148 [============================>.] - ETA: 0s - loss: 0.0842
1148/1148 [==============================] - 1s 459us/step - loss: 0.0836
Epoch 15/15

   5/1148 […] - ETA: 0s - loss: 0.0547
 130/1149 [==>…] - ETA: 0s - loss: 0.2868
 925/1148 [=======================>…] - ETA: 0s - loss: 0.0795
 435/1149 [=========>…] - ETA: 0s - loss: 0.1373
```

```
1120/1149 [============================>.] - ETA: 0s - loss: 0.1107
 455/1149 [=========>…] - ETA: 0s - loss: 0.1625
1149/1149 [==============================] - 1s 457us/step - loss: 0.1094


 410/1149 [=========>…] - ETA: 0s - loss: 0.2769Epoch 14/15


   5/1149 […] - ETA: 0s - loss: 0.0846
  90/1149 [=>…] - ETA: 0s - loss: 0.1063
  95/1148 [=>…] - ETA: 0s - loss: 0.0945
 220/1149 [====>…] - ETA: 0s - loss: 0.2628
1030/1148 [=========================>…] - ETA: 0s - loss: 0.0813
 575/1149 [=============>…] - ETA: 0s - loss: 0.1332
 570/1149 [=============>…] - ETA: 0s - loss: 0.1541
 570/1149 [=============>…] - ETA: 0s - loss: 0.2539
 175/1149 [===>…] - ETA: 0s - loss: 0.1122
 145/1149 [==>…] - ETA: 0s - loss: 0.0966
 300/1149 [======>…] - ETA: 0s - loss: 0.2472
 170/1148 [===>…] - ETA: 0s - loss: 0.0947
1148/1148 [==============================] - 1s 442us/step - loss: 0.0847
Epoch 6/20


   5/1148 […] - ETA: 0s - loss: 0.1600
 710/1149 [================>…] - ETA: 0s - loss: 0.1350
 685/1149 [================>…] - ETA: 0s - loss: 0.1549
 700/1149 [================>…] - ETA: 0s - loss: 0.2324
 260/1149 [=====>…] - ETA: 0s - loss: 0.0837
 265/1149 [=====>…] - ETA: 0s - loss: 0.1398
 445/1149 [=========>…] - ETA: 0s - loss: 0.2218
 290/1148 [======>…] - ETA: 0s - loss: 0.0890
 125/1148 [==>…] - ETA: 0s - loss: 0.0691
 805/1149 [==================>…] - ETA: 0s - loss: 0.1296
 785/1149 [==================>…] - ETA: 0s - loss: 0.1505
 380/1149 [=======>…] - ETA: 0s - loss: 0.1017
 375/1149 [=======>…] - ETA: 0s - loss: 0.1270
 800/1149 [==================>…] - ETA: 0s - loss: 0.2245
 580/1149 [=============>…] - ETA: 0s - loss: 0.2376
 435/1148 [=========>…] - ETA: 0s - loss: 0.0854
 220/1148 [====>…] - ETA: 0s - loss: 0.0786
 905/1149 [====================>…] - ETA: 0s - loss: 0.1275
 880/1149 [====================>…] - ETA: 0s - loss: 0.1516
 485/1149 [==========>…] - ETA: 0s - loss: 0.1241
 895/1149 [====================>…] - ETA: 0s - loss: 0.2195
 480/1149 [==========>…] - ETA: 0s - loss: 0.1062
 700/1149 [================>…] - ETA: 0s - loss: 0.2267
 540/1148 [=============>…] - ETA: 0s - loss: 0.0845
 325/1148 [=======>…] - ETA: 0s - loss: 0.0768
1025/1149 [========================>…] - ETA: 0s - loss: 0.1297
 995/1149 [=======================>…] - ETA: 0s - loss: 0.1567
```

```
 620/1149 [===============>…] - ETA: 0s - loss: 0.1244
 995/1149 [=========================>…] - ETA: 0s - loss: 0.2140
 585/1149 [==============>…] - ETA: 0s - loss: 0.1030
 655/1148 [================>…] - ETA: 0s - loss: 0.0818
 820/1149 [====================>…] - ETA: 0s - loss: 0.2161
 430/1148 [==========>…] - ETA: 0s - loss: 0.0855
1149/1149 [==============================] - 1s 440us/step - loss: 0.1403
Epoch 14/15

   5/1149 […] - ETA: 0s - loss: 0.1276
1115/1149 [============================>.] - ETA: 0s - loss: 0.1548
 750/1149 [==================>…] - ETA: 0s - loss: 0.1397
1095/1149 [===========================>..] - ETA: 0s - loss: 0.2119
 700/1149 [================>…] - ETA: 0s - loss: 0.1107
1149/1149 [==============================] - 1s 458us/step - loss: 0.1562
Epoch 7/15

   5/1149 […] - ETA: 0s - loss: 0.0841
 765/1148 [==================>…] - ETA: 0s - loss: 0.0811
 935/1149 [========================>…] - ETA: 0s - loss: 0.2109
 530/1148 [============>…] - ETA: 0s - loss: 0.0861
1149/1149 [==============================] - 1s 476us/step - loss: 0.2085

 130/1149 [==>…] - ETA: 0s - loss: 0.1093Epoch 5/20

   5/1149 […] - ETA: 0s - loss: 0.6685
 860/1149 [=====================>…] - ETA: 0s - loss: 0.1391
 825/1149 [====================>…] - ETA: 0s - loss: 0.1127
 120/1149 [==>…] - ETA: 0s - loss: 0.2673
1030/1149 [=========================>…] - ETA: 0s - loss: 0.2040
 885/1148 [======================>…] - ETA: 0s - loss: 0.0821
 640/1148 [===============>…] - ETA: 0s - loss: 0.0839
 230/1149 [=====>…] - ETA: 0s - loss: 0.1361
 150/1149 [==>…] - ETA: 0s - loss: 0.1918
 975/1149 [========================>…] - ETA: 0s - loss: 0.1389
 930/1149 [======================>…] - ETA: 0s - loss: 0.1111
 220/1149 [====>…] - ETA: 0s - loss: 0.2238
1005/1148 [=========================>…] - ETA: 0s - loss: 0.0861
1135/1149 [=============================>.] - ETA: 0s - loss: 0.1957
 745/1148 [=================>…] - ETA: 0s - loss: 0.0840
1149/1149 [==============================] - 1s 455us/step - loss: 0.1947

 335/1149 [=======>…] - ETA: 0s - loss: 0.1294
 275/1149 [======>…] - ETA: 0s - loss: 0.1523Epoch 4/20

   5/1149 […] - ETA: 0s - loss: 0.3808
1105/1149 [===========================>..] - ETA: 0s - loss: 0.1344
1045/1149 [=========================>…] - ETA: 0s - loss: 0.1066
```

```
 325/1149 [=======>…] - ETA: 0s - loss: 0.1852
1149/1149 [==============================] - 1s 463us/step - loss: 0.1329


1110/1148 [=============================>.] - ETA: 0s - loss: 0.0833Epoch 9/15


   5/1149 […] - ETA: 1s - loss: 0.0642
 865/1148 [====================>…] - ETA: 0s - loss: 0.0794
 430/1149 [=========>…] - ETA: 0s - loss: 0.1227
 385/1149 [========>…] - ETA: 0s - loss: 0.1475
 105/1149 [=>…] - ETA: 0s - loss: 0.1239
1148/1148 [==============================] - 1s 467us/step - loss: 0.0828


1149/1149 [==============================] - 1s 450us/step - loss: 0.1077
Epoch 15/15


   5/1149 […] - ETA: 0s - loss: 0.1011
 425/1149 [=========>…] - ETA: 0s - loss: 0.1713
 990/1148 [========================>…] - ETA: 0s - loss: 0.0821
  90/1149 [=>…] - ETA: 0s - loss: 0.1193
 530/1149 [===========>…] - ETA: 0s - loss: 0.1571
 485/1149 [==========>…] - ETA: 0s - loss: 0.1495
 215/1149 [====>…] - ETA: 0s - loss: 0.1248
 130/1149 [==>…] - ETA: 0s - loss: 0.0932
 535/1149 [===========>…] - ETA: 0s - loss: 0.1618
 195/1149 [====>…] - ETA: 0s - loss: 0.1129
1105/1148 [===========================>..] - ETA: 0s - loss: 0.0840
 560/1149 [============>…] - ETA: 0s - loss: 0.1494
 650/1149 [===============>…] - ETA: 0s - loss: 0.1467
 335/1149 [=======>…] - ETA: 0s - loss: 0.1275
 220/1149 [====>…] - ETA: 0s - loss: 0.0886
1148/1148 [==============================] - 1s 478us/step - loss: 0.0831
Epoch 7/20


   5/1148 […] - ETA: 0s - loss: 0.1886
 625/1149 [===============>…] - ETA: 0s - loss: 0.1667
 330/1149 [=======>…] - ETA: 0s - loss: 0.1102
 755/1149 [=================>…] - ETA: 0s - loss: 0.1421
 670/1149 [===============>…] - ETA: 0s - loss: 0.1594
 480/1149 [==========>…] - ETA: 0s - loss: 0.1331
 300/1149 [======>…] - ETA: 0s - loss: 0.0841
 710/1149 [================>…] - ETA: 0s - loss: 0.1618
  80/1148 [=>…] - ETA: 0s - loss: 0.0779
 445/1149 [=========>…] - ETA: 0s - loss: 0.1424
 785/1149 [==================>…] - ETA: 0s - loss: 0.1625
 880/1149 [====================>…] - ETA: 0s - loss: 0.1418
 620/1149 [===============>…] - ETA: 0s - loss: 0.1304
 405/1149 [========>…] - ETA: 0s - loss: 0.0852
 800/1149 [==================>…] - ETA: 0s - loss: 0.1588
```

```
 140/1148 [==>…] - ETA: 0s - loss: 0.0768
 525/1149 [===========>…] - ETA: 0s - loss: 0.1322
 955/1149 [======================>…] - ETA: 0s - loss: 0.1445
 865/1149 [====================>…] - ETA: 0s - loss: 0.1596
 695/1149 [================>…] - ETA: 0s - loss: 0.1328
 460/1149 [==========>…] - ETA: 0s - loss: 0.0858
 180/1148 [===>…] - ETA: 0s - loss: 0.0785
 850/1149 [====================>…] - ETA: 0s - loss: 0.1566
 570/1149 [============>…] - ETA: 0s - loss: 0.1341
1005/1149 [=======================>…] - ETA: 0s - loss: 0.1436
 915/1149 [=====================>…] - ETA: 0s - loss: 0.1600
 740/1149 [=================>…] - ETA: 0s - loss: 0.1330
 520/1149 [============>…] - ETA: 0s - loss: 0.0899
 245/1148 [=====>…] - ETA: 0s - loss: 0.0777
 930/1149 [======================>…] - ETA: 0s - loss: 0.1565
 650/1149 [==============>…] - ETA: 0s - loss: 0.1273
1105/1149 [==========================>..] - ETA: 0s - loss: 0.1408
1005/1149 [=======================>…] - ETA: 0s - loss: 0.1548
 795/1149 [==================>…] - ETA: 0s - loss: 0.1321
1149/1149 [==============================] - 1s 513us/step - loss: 0.1384


 630/1149 [==============>…] - ETA: 0s - loss: 0.0904Epoch 15/15


   5/1149 […] - ETA: 0s - loss: 0.1742
 340/1148 [=======>…] - ETA: 0s - loss: 0.0798
1050/1149 [=========================>…] - ETA: 0s - loss: 0.1530
 750/1149 [=================>…] - ETA: 0s - loss: 0.1226
1130/1149 [============================>.] - ETA: 0s - loss: 0.1484
 850/1149 [====================>…] - ETA: 0s - loss: 0.1556
1149/1149 [==============================] - 1s 505us/step - loss: 0.1469
Epoch 6/20


   5/1149 […] - ETA: 0s - loss: 0.0514
 750/1149 [=================>…] - ETA: 0s - loss: 0.0945
1149/1149 [==============================] - 1s 530us/step - loss: 0.1482
Epoch 8/15


   5/1149 […] - ETA: 0s - loss: 0.3998
 120/1149 [==>…] - ETA: 0s - loss: 0.1088
 455/1148 [=========>…] - ETA: 0s - loss: 0.0809
 855/1149 [====================>…] - ETA: 0s - loss: 0.1323
 910/1149 [=====================>…] - ETA: 0s - loss: 0.1523
 125/1149 [==>…] - ETA: 0s - loss: 0.1234
 875/1149 [====================>…] - ETA: 0s - loss: 0.0959
 120/1149 [==>…] - ETA: 0s - loss: 0.1622
 220/1149 [====>…] - ETA: 0s - loss: 0.1719
 575/1148 [=============>…] - ETA: 0s - loss: 0.0820
 955/1149 [=====================>…] - ETA: 0s - loss: 0.1291
```

```
1070/1149 [==========================>…] - ETA: 0s - loss: 0.1509
 240/1149 [=====>…] - ETA: 0s - loss: 0.1197
 980/1149 [========================>…] - ETA: 0s - loss: 0.1047
 230/1149 [=====>…] - ETA: 0s - loss: 0.1493
 320/1149 [=======>…] - ETA: 0s - loss: 0.1457
 675/1148 [===============>…] - ETA: 0s - loss: 0.0824
1149/1149 [=============================] - 1s 521us/step - loss: 0.1481
Epoch 5/20

   5/1149 […] - ETA: 0s - loss: 0.1145
1050/1149 [=========================>…] - ETA: 0s - loss: 0.1281
 340/1149 [=======>…] - ETA: 0s - loss: 0.1329
1100/1149 [============================>..] - ETA: 0s - loss: 0.1085
 430/1149 [=========>…] - ETA: 0s - loss: 0.1484
 345/1149 [========>…] - ETA: 0s - loss: 0.1431
 780/1148 [===================>…] - ETA: 0s - loss: 0.0800
 155/1149 [===>…] - ETA: 0s - loss: 0.1151
1149/1149 [=============================] - 1s 543us/step - loss: 0.1301


1149/1149 [=============================] - 1s 514us/step - loss: 0.1071
Epoch 10/15

   5/1149 […] - ETA: 0s - loss: 0.0446
 440/1149 [==========>…] - ETA: 0s - loss: 0.1547
 460/1149 [==========>…] - ETA: 0s - loss: 0.1359
 550/1149 [=============>…] - ETA: 0s - loss: 0.1423
 895/1148 [======================>…] - ETA: 0s - loss: 0.0791
 270/1149 [======>…] - ETA: 0s - loss: 0.1140
 125/1149 [==>…] - ETA: 0s - loss: 0.1201
 540/1149 [=============>…] - ETA: 0s - loss: 0.1633
 575/1149 [=============>…] - ETA: 0s - loss: 0.1301
 665/1149 [================>…] - ETA: 0s - loss: 0.1458
1010/1148 [========================>…] - ETA: 0s - loss: 0.0788
 370/1149 [========>…] - ETA: 0s - loss: 0.1395
 260/1149 [=====>…] - ETA: 0s - loss: 0.1243
 640/1149 [===============>…] - ETA: 0s - loss: 0.1554
 805/1149 [===================>…] - ETA: 0s - loss: 0.1392
 680/1149 [================>…] - ETA: 0s - loss: 0.1283
 480/1149 [==========>…] - ETA: 0s - loss: 0.1339
1148/1148 [=============================] - 1s 539us/step - loss: 0.0820
Epoch 8/20

   5/1148 […] - ETA: 0s - loss: 0.2766
 375/1149 [=======>…] - ETA: 0s - loss: 0.1414
 760/1149 [==================>…] - ETA: 0s - loss: 0.1453
 925/1149 [======================>…] - ETA: 0s - loss: 0.1381
 800/1149 [===================>…] - ETA: 0s - loss: 0.1258
 585/1149 [=============>…] - ETA: 0s - loss: 0.1258
```

```
 145/1148 [==>…] - ETA: 0s - loss: 0.0886
 500/1149 [===========>…] - ETA: 0s - loss: 0.1244
 880/1149 [=====================>…] - ETA: 0s - loss: 0.1447
1060/1149 [===========================>…] - ETA: 0s - loss: 0.1324
 895/1149 [=====================>…] - ETA: 0s - loss: 0.1264
 680/1149 [===============>…] - ETA: 0s - loss: 0.1243
 285/1148 [======>…] - ETA: 0s - loss: 0.0809
 625/1149 [==============>…] - ETA: 0s - loss: 0.1449
1149/1149 [=============================] - 1s 435us/step - loss: 0.1362


1000/1149 [=========================>…] - ETA: 0s - loss: 0.1399
1005/1149 [=========================>…] - ETA: 0s - loss: 0.1289
 770/1149 [==================>…] - ETA: 0s - loss: 0.1241
 385/1148 [========>…] - ETA: 0s - loss: 0.0823
 735/1149 [=================>…] - ETA: 0s - loss: 0.1433
1120/1149 [============================>.] - ETA: 0s - loss: 0.1366
1080/1149 [===========================>..] - ETA: 0s - loss: 0.1446
 885/1149 [=====================>…] - ETA: 0s - loss: 0.1224
1149/1149 [=============================] - 1s 460us/step - loss: 0.1349
Epoch 7/20


   5/1149 […] - ETA: 0s - loss: 0.2779
 480/1148 [==========>…] - ETA: 0s - loss: 0.0814
 845/1149 [=====================>…] - ETA: 0s - loss: 0.1378
1149/1149 [=============================] - 1s 477us/step - loss: 0.1459
Epoch 9/15


   5/1149 […] - ETA: 0s - loss: 0.1164
1025/1149 [========================>…] - ETA: 0s - loss: 0.1256
 125/1149 [==>…] - ETA: 0s - loss: 0.1323
 570/1148 [============>…] - ETA: 0s - loss: 0.0790
 960/1149 [=======================>…] - ETA: 0s - loss: 0.1342
 160/1149 [===>…] - ETA: 0s - loss: 0.1451
1149/1149 [=============================] - 1s 435us/step - loss: 0.1396
Epoch 6/20


   5/1149 […] - ETA: 0s - loss: 0.1397Epoch 1/20


   5/1149 […] - ETA: 1:44 - loss: 2.1974
 655/1148 [===============>…] - ETA: 0s - loss: 0.0843
 250/1149 [=====>…] - ETA: 0s - loss: 0.1383
1080/1149 [===========================>..] - ETA: 0s - loss: 0.1296
 305/1149 [======>…] - ETA: 0s - loss: 0.1807
 130/1149 [==>…] - ETA: 0s - loss: 0.2196
 780/1148 [==================>…] - ETA: 0s - loss: 0.0838
 355/1149 [========>…] - ETA: 0s - loss: 0.1308
1149/1149 [=============================] - 1s 436us/step - loss: 0.1290
```

```
  35/1149 […] - ETA: 16s - loss: 0.8300 Epoch 11/15


    5/1149 […] - ETA: 0s - loss: 0.0179
  420/1149 [=========>…] - ETA: 0s - loss: 0.1781
  250/1149 [=====>…] - ETA: 0s - loss: 0.1716
  910/1148 [=====================>…] - ETA: 0s - loss: 0.0821
  460/1149 [==========>…] - ETA: 0s - loss: 0.1232
  125/1149 [==>…] - ETA: 0s - loss: 0.0862
   85/1149 [=>…] - ETA: 7s - loss: 0.7875
  540/1149 [============>…] - ETA: 0s - loss: 0.1648
  385/1149 [=========>…] - ETA: 0s - loss: 0.1781
 1040/1148 [=========================>…] - ETA: 0s - loss: 0.0822
  590/1149 [=============>…] - ETA: 0s - loss: 0.1187
  250/1149 [=====>…] - ETA: 0s - loss: 0.1576
  135/1149 [==>…] - ETA: 4s - loss: 0.9107
  650/1149 [==============>…] - ETA: 0s - loss: 0.1569
  515/1149 [===========>…] - ETA: 0s - loss: 0.1578
 1140/1148 [============================>.] - ETA: 0s - loss: 0.0807
  695/1149 [=================>…] - ETA: 0s - loss: 0.1160
  365/1149 [========>…] - ETA: 0s - loss: 0.1384
 1148/1148 [=============================] - 1s 450us/step - loss: 0.0815
Epoch 9/20

    5/1148 […] - ETA: 0s - loss: 0.0708
  180/1149 [===>…] - ETA: 3s - loss: 0.9485
  760/1149 [==================>…] - ETA: 0s - loss: 0.1513
  640/1149 [==============>…] - ETA: 0s - loss: 0.1533
  795/1149 [===================>…] - ETA: 0s - loss: 0.1122
  460/1149 [==========>…] - ETA: 0s - loss: 0.1333
   95/1148 [=>…] - ETA: 0s - loss: 0.0785
  215/1149 [====>…] - ETA: 3s - loss: 0.9284
  850/1149 [====================>…] - ETA: 0s - loss: 0.1510
  720/1149 [=================>…] - ETA: 0s - loss: 0.1507
  865/1149 [=====================>…] - ETA: 0s - loss: 0.1110
  545/1149 [============>…] - ETA: 0s - loss: 0.1348
  175/1148 [===>…] - ETA: 0s - loss: 0.0703
  940/1149 [======================>…] - ETA: 0s - loss: 0.1509
  290/1149 [======>…] - ETA: 2s - loss: 1.1159
  810/1149 [===================>…] - ETA: 0s - loss: 0.1444
  970/1149 [=======================>…] - ETA: 0s - loss: 0.1239
  645/1149 [==============>…] - ETA: 0s - loss: 0.1310
  265/1148 [=====>…] - ETA: 0s - loss: 0.0723
 1055/1149 [=========================>…] - ETA: 0s - loss: 0.1479
  390/1149 [=========>…] - ETA: 1s - loss: 1.0859
  920/1149 [======================>…] - ETA: 0s - loss: 0.1399
 1050/1149 [=========================>…] - ETA: 0s - loss: 0.1210
  755/1149 [==================>…] - ETA: 0s - loss: 0.1301
  375/1148 [========>…] - ETA: 0s - loss: 0.0661
```

```
1140/1149 [============================>.] - ETA: 0s - loss: 0.1433
 480/1149 [==========>…] - ETA: 1s - loss: 0.9908
1149/1149 [=============================] - 1s 451us/step - loss: 0.1432
Epoch 10/15

   5/1149 […] - ETA: 0s - loss: 0.0713
 990/1149 [=======================>…] - ETA: 0s - loss: 0.1381
1149/1149 [=============================] - 1s 486us/step - loss: 0.1300
Epoch 8/20

   5/1149 […] - ETA: 0s - loss: 0.0792
 885/1149 [=====================>…] - ETA: 0s - loss: 0.1305
 495/1148 [==========>…] - ETA: 0s - loss: 0.0667
 545/1149 [============>…] - ETA: 1s - loss: 0.9878
 110/1149 [=>…] - ETA: 0s - loss: 0.1274
1090/1149 [===========================>..] - ETA: 0s - loss: 0.1349
 120/1149 [==>…] - ETA: 0s - loss: 0.0921
1000/1149 [=======================>…] - ETA: 0s - loss: 0.1310
 620/1148 [==============>…] - ETA: 0s - loss: 0.0716
 595/1149 [=============>…] - ETA: 0s - loss: 1.0376
1149/1149 [=============================] - 1s 482us/step - loss: 0.1354
Epoch 7/20

   5/1149 […] - ETA: 0s - loss: 0.0891
 205/1149 [====>…] - ETA: 0s - loss: 0.1167
 240/1149 [=====>…] - ETA: 0s - loss: 0.1151
 665/1148 [===============>…] - ETA: 0s - loss: 0.0728
1040/1149 [==========================>…] - ETA: 0s - loss: 0.1323
 720/1149 [================>…] - ETA: 0s - loss: 1.0256
 110/1149 [=>…] - ETA: 0s - loss: 0.1354
 315/1149 [=======>…] - ETA: 0s - loss: 0.1225
 330/1149 [=======>…] - ETA: 0s - loss: 0.1289
 690/1148 [================>…] - ETA: 0s - loss: 0.0725
1070/1149 [==========================>…] - ETA: 0s - loss: 0.1306
 815/1149 [===================>…] - ETA: 0s - loss: 1.0295
 220/1149 [====>…] - ETA: 0s - loss: 0.1127
 420/1149 [========>…] - ETA: 0s - loss: 0.1192
 440/1149 [=========>…] - ETA: 0s - loss: 0.1311
1149/1149 [=============================] - 1s 541us/step - loss: 0.1276
Epoch 12/15

   5/1149 […] - ETA: 0s - loss: 0.3433
 770/1148 [==================>…] - ETA: 0s - loss: 0.0792
 930/1149 [======================>…] - ETA: 0s - loss: 1.0330Epoch 1/20

   5/1149 […] - ETA: 1:34 - loss: 1.2763
 535/1149 [============>…] - ETA: 0s - loss: 0.1192
 270/1149 [======>…] - ETA: 0s - loss: 0.1117
```

```
 545/1149 [=============>…] - ETA: 0s - loss: 0.1226
 120/1149 [==>…] - ETA: 0s - loss: 0.1085
 880/1148 [====================>…] - ETA: 0s - loss: 0.0815
1045/1149 [==========================>…] - ETA: 0s - loss: 1.0649
  85/1149 [=>…] - ETA: 5s - loss: 1.0457
 655/1149 [===============>…] - ETA: 0s - loss: 0.1270
 320/1149 [=======>…] - ETA: 0s - loss: 0.1197
 655/1149 [===============>…] - ETA: 0s - loss: 0.1305
 235/1149 [=====>…] - ETA: 0s - loss: 0.1086
 975/1148 [======================>…] - ETA: 0s - loss: 0.0802
1135/1149 [===========================>.] - ETA: 0s - loss: 1.0778
 405/1149 [=========>…] - ETA: 0s - loss: 0.1133
 745/1149 [=================>…] - ETA: 0s - loss: 0.1278
1149/1149 [=============================] - 1s 1ms/step - loss: 1.0733
Epoch 2/20

   5/1149 […] - ETA: 1s - loss: 0.8007
 725/1149 [================>…] - ETA: 0s - loss: 0.1279
 320/1149 [=======>…] - ETA: 0s - loss: 0.1077
 170/1149 [===>…] - ETA: 3s - loss: 1.3639
1110/1148 [============================>.] - ETA: 0s - loss: 0.0795Epoch 1/5

  10/1148 […] - ETA: 1:02 - loss: 0.4445
1148/1148 [=============================] - 1s 559us/step - loss: 0.0808
Epoch 10/20

   5/1148 […] - ETA: 0s - loss: 0.1028
 555/1149 [=============>…] - ETA: 0s - loss: 0.1127
 855/1149 [====================>…] - ETA: 0s - loss: 0.1256
  95/1149 [=>…] - ETA: 0s - loss: 0.7667
 825/1149 [===================>…] - ETA: 0s - loss: 0.1337
 260/1149 [=====>…] - ETA: 2s - loss: 1.2441
 440/1149 [==========>…] - ETA: 0s - loss: 0.1084
 130/1148 [==>…] - ETA: 0s - loss: 0.0678
 965/1149 [=======================>…] - ETA: 0s - loss: 0.1449
 695/1149 [=================>…] - ETA: 0s - loss: 0.1119
 190/1149 [===>…] - ETA: 0s - loss: 0.6365
  60/1148 [>…] - ETA: 11s - loss: 0.3454
 935/1149 [======================>…] - ETA: 0s - loss: 0.1299
 540/1149 [=============>…] - ETA: 0s - loss: 0.1076
 325/1149 [=======>…] - ETA: 1s - loss: 1.2204
 235/1148 [=====>…] - ETA: 0s - loss: 0.0736
 785/1149 [=================>…] - ETA: 0s - loss: 0.1132
1065/1149 [==========================>…] - ETA: 0s - loss: 0.1431
 325/1149 [=======>…] - ETA: 0s - loss: 0.6319
1035/1149 [==========================>…] - ETA: 0s - loss: 0.1289
 180/1148 [===>…] - ETA: 3s - loss: 0.3730
 655/1149 [===============>…] - ETA: 0s - loss: 0.1173
```

```
 415/1149 [=========>…] - ETA: 1s - loss: 1.2143
1149/1149 [==============================] - 1s 485us/step - loss: 0.1418
Epoch 11/15

   5/1149 […] - ETA: 0s - loss: 0.1309
 360/1148 [=======>…] - ETA: 0s - loss: 0.0781
 895/1149 [======================>…] - ETA: 0s - loss: 0.1275
 450/1149 [==========>…] - ETA: 0s - loss: 0.6839
1130/1149 [============================>.] - ETA: 0s - loss: 0.1273
1149/1149 [==============================] - 1s 500us/step - loss: 0.1267


 270/1148 [======>…] - ETA: 2s - loss: 0.3884Epoch 9/20

   5/1149 […] - ETA: 0s - loss: 0.0716
 785/1149 [===================>…] - ETA: 0s - loss: 0.1159
 515/1149 [============>…] - ETA: 0s - loss: 1.1572
 135/1149 [==>…] - ETA: 0s - loss: 0.1116
 480/1148 [==========>…] - ETA: 0s - loss: 0.0863
1030/1149 [=========================>…] - ETA: 0s - loss: 0.1389
 560/1149 [=============>…] - ETA: 0s - loss: 0.7638
 135/1149 [==>…] - ETA: 0s - loss: 0.0848
 370/1148 [========>…] - ETA: 1s - loss: 0.3645
 915/1149 [======================>…] - ETA: 0s - loss: 0.1143
 550/1149 [=============>…] - ETA: 0s - loss: 1.1426
 295/1149 [======>…] - ETA: 0s - loss: 0.1144
1149/1149 [==============================] - 1s 495us/step - loss: 0.1344


 620/1148 [===============>…] - ETA: 0s - loss: 0.0836Epoch 8/20

   5/1149 […] - ETA: 0s - loss: 0.0854
 665/1149 [================>…] - ETA: 0s - loss: 0.7431
 235/1149 [=====>…] - ETA: 0s - loss: 0.1323
1010/1149 [=========================>…] - ETA: 0s - loss: 0.1148
 370/1149 [========>…] - ETA: 0s - loss: 0.1148
  80/1149 [=>…] - ETA: 0s - loss: 0.3572
 690/1148 [=================>…] - ETA: 0s - loss: 0.0825
 470/1148 [==========>…] - ETA: 1s - loss: 0.3622
 590/1149 [==============>…] - ETA: 0s - loss: 1.1203
 720/1149 [=================>…] - ETA: 0s - loss: 0.7771
 290/1149 [======>…] - ETA: 0s - loss: 0.1278
1065/1149 [==========================>…] - ETA: 0s - loss: 0.1136
 420/1149 [=========>…] - ETA: 0s - loss: 0.1126
 115/1149 [==>…] - ETA: 0s - loss: 0.2908
 740/1148 [=================>…] - ETA: 0s - loss: 0.0823
 605/1149 [==============>…] - ETA: 0s - loss: 1.1161
 520/1148 [============>…] - ETA: 1s - loss: 0.3586
 775/1149 [===================>…] - ETA: 0s - loss: 0.7607
 345/1149 [=======>…] - ETA: 0s - loss: 0.1412
```

```
1125/1149 [============================>.] - ETA: 0s - loss: 0.1271
 480/1149 [==========>…] - ETA: 0s - loss: 0.1341
1149/1149 [=============================] - 1s 510us/step - loss: 0.1267
Epoch 13/15

   5/1149 […] - ETA: 0s - loss: 0.0813
 175/1149 [===>…] - ETA: 0s - loss: 0.2229
 815/1148 [===================>…] - ETA: 0s - loss: 0.0800
 635/1149 [==============>…] - ETA: 0s - loss: 1.0961
 570/1148 [============>…] - ETA: 1s - loss: 0.3542
 840/1149 [===================>…] - ETA: 0s - loss: 0.7632
 410/1149 [========>…] - ETA: 0s - loss: 0.1474
 515/1149 [===========>…] - ETA: 0s - loss: 0.1324
  70/1149 [>…] - ETA: 0s - loss: 0.3283
 235/1149 [=====>…] - ETA: 0s - loss: 0.1898
 880/1148 [====================>…] - ETA: 0s - loss: 0.0782
 725/1149 [================>…] - ETA: 0s - loss: 1.0776
 720/1148 [================>…] - ETA: 0s - loss: 0.3435
 905/1149 [=====================>…] - ETA: 0s - loss: 0.7520
 485/1149 [==========>…] - ETA: 0s - loss: 0.1408
 305/1149 [======>…] - ETA: 0s - loss: 0.1645
 145/1149 [==>…] - ETA: 0s - loss: 0.2624
 940/1148 [======================>…] - ETA: 0s - loss: 0.0794
 810/1149 [==================>…] - ETA: 0s - loss: 1.1046
 890/1148 [======================>…] - ETA: 0s - loss: 0.3344
 980/1149 [=======================>…] - ETA: 0s - loss: 0.7232
 530/1149 [===========>…] - ETA: 0s - loss: 0.1302
 560/1149 [============>…] - ETA: 0s - loss: 0.1370
 220/1149 [====>…] - ETA: 0s - loss: 0.2036
 375/1149 [========>…] - ETA: 0s - loss: 0.1451
1015/1148 [=======================>…] - ETA: 0s - loss: 0.0789
 890/1149 [=====================>…] - ETA: 0s - loss: 1.0705
1030/1148 [========================>…] - ETA: 0s - loss: 0.3167
1055/1149 [==========================>…] - ETA: 0s - loss: 0.7237
 600/1149 [=============>…] - ETA: 0s - loss: 0.1477
 640/1149 [==============>…] - ETA: 0s - loss: 0.1281
1148/1148 [=============================] - 1s 1ms/step - loss: 0.3108
Epoch 2/5

  10/1148 […] - ETA: 0s - loss: 0.1205
 315/1149 [=======>…] - ETA: 0s - loss: 0.1786
 465/1149 [==========>…] - ETA: 0s - loss: 0.1432
1115/1148 [===========================>.] - ETA: 0s - loss: 0.0805
 975/1149 [=======================>…] - ETA: 0s - loss: 1.0826
1149/1149 [=============================] - 1s 594us/step - loss: 0.7414
Epoch 3/20

   5/1149 […] - ETA: 0s - loss: 1.0169
```

```
1148/1148 [==============================] - 1s 563us/step - loss: 0.0806
Epoch 11/20

   5/1148 [...] - ETA: 0s - loss: 0.0344
 695/1149 [=================>...] - ETA: 0s - loss: 0.1527
 740/1149 [=================>...] - ETA: 0s - loss: 0.1322
 220/1148 [====>...] - ETA: 0s - loss: 0.1813
 430/1149 [=========>...] - ETA: 0s - loss: 0.1600
 575/1149 [=============>...] - ETA: 0s - loss: 0.1331
1080/1149 [===========================>..] - ETA: 0s - loss: 1.0733
 110/1149 [=>...] - ETA: 0s - loss: 0.6875
 825/1149 [===================>...] - ETA: 0s - loss: 0.1505
 120/1148 [==>...] - ETA: 0s - loss: 0.1095
 845/1149 [===================>...] - ETA: 0s - loss: 0.1286
1149/1149 [==============================] - 1s 1ms/step - loss: 1.0684
Epoch 2/20

   5/1149 [...] - ETA: 0s - loss: 0.4011
 490/1148 [==========>...] - ETA: 0s - loss: 0.1963
 530/1149 [===========>...] - ETA: 0s - loss: 0.1439
 680/1149 [================>...] - ETA: 0s - loss: 0.1307
 220/1149 [====>...] - ETA: 0s - loss: 0.5464
 950/1149 [======================>...] - ETA: 0s - loss: 0.1258
 955/1149 [======================>...] - ETA: 0s - loss: 0.1494
 220/1148 [====>...] - ETA: 0s - loss: 0.1068
 115/1149 [==>...] - ETA: 0s - loss: 0.6407
 710/1148 [================>...] - ETA: 0s - loss: 0.1927
 625/1149 [===============>...] - ETA: 0s - loss: 0.1363
 785/1149 [===================>...] - ETA: 0s - loss: 0.1269
 300/1149 [======>...] - ETA: 0s - loss: 0.4816
1025/1149 [=======================>...] - ETA: 0s - loss: 0.1243
1095/1149 [===========================>..] - ETA: 0s - loss: 0.1423
 290/1148 [======>...] - ETA: 0s - loss: 0.1021
 210/1149 [====>...] - ETA: 0s - loss: 0.6768
 880/1148 [====================>...] - ETA: 0s - loss: 0.1892
 690/1149 [================>...] - ETA: 0s - loss: 0.1317
1149/1149 [==============================] - 1s 597us/step - loss: 0.1393

 870/1149 [====================>...] - ETA: 0s - loss: 0.1376Epoch 12/15

   5/1149 [...] - ETA: 0s - loss: 0.1034
 390/1149 [========>...] - ETA: 0s - loss: 0.5012
1130/1149 [============================>.] - ETA: 0s - loss: 0.1223
 390/1148 [========>...] - ETA: 0s - loss: 0.1006
1149/1149 [==============================] - 1s 597us/step - loss: 0.1253
Epoch 10/20

   5/1149 [...] - ETA: 0s - loss: 0.1141
```

```
 325/1149 [=======>…] - ETA: 0s - loss: 0.7167
1100/1148 [===========================>..] - ETA: 0s - loss: 0.1797
 805/1149 [====================>…] - ETA: 0s - loss: 0.1282
 975/1149 [=======================>…] - ETA: 0s - loss: 0.1374
 110/1149 [=>…] - ETA: 0s - loss: 0.0883
1148/1148 [=============================] - 0s 234us/step - loss: 0.1818
Epoch 3/5

  10/1148 […] - ETA: 0s - loss: 0.2196
 485/1149 [==========>…] - ETA: 0s - loss: 0.4849
 490/1148 [==========>…] - ETA: 0s - loss: 0.0931
 115/1149 [==>…] - ETA: 0s - loss: 0.1061
 425/1149 [=========>…] - ETA: 0s - loss: 0.7494
 910/1149 [=====================>…] - ETA: 0s - loss: 0.1218
1090/1149 [===========================>..] - ETA: 0s - loss: 0.1319
 210/1149 [====>…] - ETA: 0s - loss: 0.0933
 250/1148 [=====>…] - ETA: 0s - loss: 0.1466
 595/1149 [=============>…] - ETA: 0s - loss: 0.4894
 610/1148 [=============>…] - ETA: 0s - loss: 0.0886
1149/1149 [=============================] - 1s 617us/step - loss: 0.1303

 220/1149 [====>…] - ETA: 0s - loss: 0.1010Epoch 9/20

   5/1149 […] - ETA: 0s - loss: 0.2516
 530/1149 [===========>…] - ETA: 0s - loss: 0.7441
1020/1149 [========================>…] - ETA: 0s - loss: 0.1265
 300/1149 [======>…] - ETA: 0s - loss: 0.1126
 470/1148 [==========>…] - ETA: 0s - loss: 0.1350
 695/1149 [=================>…] - ETA: 0s - loss: 0.4873
 740/1148 [==================>…] - ETA: 0s - loss: 0.0849
 320/1149 [=======>…] - ETA: 0s - loss: 0.1153
 110/1149 [=>…] - ETA: 0s - loss: 0.1070
 645/1149 [==============>…] - ETA: 0s - loss: 0.8021
1130/1149 [============================>.] - ETA: 0s - loss: 0.1249
 400/1149 [=========>…] - ETA: 0s - loss: 0.1179
1149/1149 [=============================] - 1s 550us/step - loss: 0.1261

 680/1148 [================>…] - ETA: 0s - loss: 0.1335Epoch 14/15

   5/1149 […] - ETA: 0s - loss: 0.1085
 805/1149 [====================>…] - ETA: 0s - loss: 0.4775
 870/1148 [====================>…] - ETA: 0s - loss: 0.0818
 425/1149 [==========>…] - ETA: 0s - loss: 0.1058
 205/1149 [====>…] - ETA: 0s - loss: 0.1187
 755/1149 [=================>…] - ETA: 0s - loss: 0.8612
 500/1149 [===========>…] - ETA: 0s - loss: 0.1277
 870/1148 [====================>…] - ETA: 0s - loss: 0.1291
 115/1149 [==>…] - ETA: 0s - loss: 0.0846
```

```
 925/1149 [=======================>…] - ETA: 0s - loss: 0.4826
 965/1148 [=======================>…] - ETA: 0s - loss: 0.0813
 325/1149 [=======>…] - ETA: 0s - loss: 0.1769
 535/1149 [============>…] - ETA: 0s - loss: 0.1218
 860/1149 [====================>…] - ETA: 0s - loss: 0.9012
 615/1149 [==============>…] - ETA: 0s - loss: 0.1230
1090/1148 [===========================>..] - ETA: 0s - loss: 0.1316
 245/1149 [=====>…] - ETA: 0s - loss: 0.0925
1040/1149 [=========================>…] - ETA: 0s - loss: 0.4565
1148/1148 [==============================] - 0s 237us/step - loss: 0.1294
Epoch 4/5

  10/1148 […] - ETA: 0s - loss: 0.1023
1055/1148 [==========================>…] - ETA: 0s - loss: 0.0816
 455/1149 [=========>…] - ETA: 0s - loss: 0.1583
 645/1149 [==============>…] - ETA: 0s - loss: 0.1202
 955/1149 [=======================>…] - ETA: 0s - loss: 0.9277
 730/1149 [=================>…] - ETA: 0s - loss: 0.1196
 375/1149 [========>…] - ETA: 0s - loss: 0.0960
1149/1149 [==============================] - 1s 491us/step - loss: 0.4378
Epoch 4/20

   5/1149 […] - ETA: 0s - loss: 0.5886
1148/1148 [==============================] - 1s 488us/step - loss: 0.0800
Epoch 12/20

   5/1148 […] - ETA: 0s - loss: 0.0186
 220/1148 [====>…] - ETA: 0s - loss: 0.1185
 565/1149 [=============>…] - ETA: 0s - loss: 0.1461
 760/1149 [=================>…] - ETA: 0s - loss: 0.1292
1080/1149 [===========================>..] - ETA: 0s - loss: 0.9167
 845/1149 [====================>…] - ETA: 0s - loss: 0.1289
 480/1149 [==========>…] - ETA: 0s - loss: 0.0970
 110/1149 [=>…] - ETA: 0s - loss: 0.3450
 140/1148 [==>…] - ETA: 0s - loss: 0.0732
1149/1149 [==============================] - 1s 475us/step - loss: 0.8944
Epoch 3/20

   5/1149 […] - ETA: 0s - loss: 0.4540
 430/1148 [=========>…] - ETA: 0s - loss: 0.1248
 670/1149 [================>…] - ETA: 0s - loss: 0.1391
 865/1149 [====================>…] - ETA: 0s - loss: 0.1249
 960/1149 [=======================>…] - ETA: 0s - loss: 0.1269
 575/1149 [=============>…] - ETA: 0s - loss: 0.1120
 270/1148 [======>…] - ETA: 0s - loss: 0.0789
 215/1149 [====>…] - ETA: 0s - loss: 0.3464
 130/1149 [==>…] - ETA: 0s - loss: 1.1451
 660/1148 [===============>…] - ETA: 0s - loss: 0.1114
```

```
 790/1149 [===================>…] - ETA: 0s - loss: 0.1436
 975/1149 [========================>…] - ETA: 0s - loss: 0.1214
1095/1149 [============================>..] - ETA: 0s - loss: 0.1373
 690/1149 [=================>…] - ETA: 0s - loss: 0.1117
 360/1148 [========>…] - ETA: 0s - loss: 0.0898
 320/1149 [=======>…] - ETA: 0s - loss: 0.3108
 240/1149 [=====>…] - ETA: 0s - loss: 1.0226
1149/1149 [==============================] - 1s 465us/step - loss: 0.1382
Epoch 13/15

   5/1149 […] - ETA: 0s - loss: 0.0101
 930/1148 [======================>…] - ETA: 0s - loss: 0.1087
 885/1149 [======================>…] - ETA: 0s - loss: 0.1349
1100/1149 [============================>..] - ETA: 0s - loss: 0.1236
 820/1149 [====================>…] - ETA: 0s - loss: 0.1099
1149/1149 [==============================] - 1s 472us/step - loss: 0.1227

1148/1148 [==============================] - 0s 216us/step - loss: 0.1065

 460/1148 [===========>…] - ETA: 0s - loss: 0.0915Epoch 11/20

   5/1149 […] - ETA: 0s - loss: 0.0378Epoch 5/5

  10/1148 […] - ETA: 0s - loss: 0.1506
 410/1149 [=========>…] - ETA: 0s - loss: 0.3492
 355/1149 [========>…] - ETA: 0s - loss: 0.9506
 125/1149 [==>…] - ETA: 0s - loss: 0.1055
 995/1149 [========================>…] - ETA: 0s - loss: 0.1340
 920/1149 [=======================>…] - ETA: 0s - loss: 0.1111
 555/1148 [=============>…] - ETA: 0s - loss: 0.0857
 105/1149 [=>…] - ETA: 0s - loss: 0.0857
 240/1148 [=====>…] - ETA: 0s - loss: 0.0856
 515/1149 [============>…] - ETA: 0s - loss: 0.3126
 480/1149 [==========>…] - ETA: 0s - loss: 0.9370
 230/1149 [=====>…] - ETA: 0s - loss: 0.1052
1125/1149 [============================>.] - ETA: 0s - loss: 0.1297
1149/1149 [==============================] - 1s 457us/step - loss: 0.1297
Epoch 10/20

   5/1149 […] - ETA: 0s - loss: 0.1060
1015/1149 [=========================>…] - ETA: 0s - loss: 0.1103
 660/1148 [================>…] - ETA: 0s - loss: 0.0835
 440/1148 [==========>…] - ETA: 0s - loss: 0.1076
 215/1149 [====>…] - ETA: 0s - loss: 0.1109
 650/1149 [===============>…] - ETA: 0s - loss: 0.3065
 595/1149 [==============>…] - ETA: 0s - loss: 0.9093
 340/1149 [=======>…] - ETA: 0s - loss: 0.1227
 135/1149 [==>…] - ETA: 0s - loss: 0.1025
```

```
1110/1149 [===========================>..] - ETA: 0s - loss: 0.1113
 775/1148 [==================>…] - ETA: 0s - loss: 0.0834
 660/1148 [===============>…] - ETA: 0s - loss: 0.1006
 315/1149 [=======>…] - ETA: 0s - loss: 0.1067
 775/1149 [==================>…] - ETA: 0s - loss: 0.2875
1149/1149 [=============================] - 1s 460us/step - loss: 0.1252

 710/1149 [================>…] - ETA: 0s - loss: 0.8337Epoch 15/15

   5/1149 […] - ETA: 0s - loss: 0.0388
 450/1149 [==========>…] - ETA: 0s - loss: 0.1240
 235/1149 [=====>…] - ETA: 0s - loss: 0.1074
 895/1148 [======================>…] - ETA: 0s - loss: 0.0818
 950/1148 [=======================>…] - ETA: 0s - loss: 0.0989
 435/1149 [==========>…] - ETA: 0s - loss: 0.0990
 885/1149 [======================>…] - ETA: 0s - loss: 0.2850
 805/1149 [===================>…] - ETA: 0s - loss: 0.8194
 120/1149 [==>…] - ETA: 0s - loss: 0.1115
 570/1149 [=============>…] - ETA: 0s - loss: 0.1338
1148/1148 [=============================] - 0s 208us/step - loss: 0.0952

 320/1149 [=======>…] - ETA: 0s - loss: 0.1356
 995/1148 [========================>…] - ETA: 0s - loss: 0.0808
 565/1149 [=============>…] - ETA: 0s - loss: 0.1116
 975/1149 [=======================>…] - ETA: 0s - loss: 0.2723
 265/1149 [=====>…] - ETA: 0s - loss: 0.1103
 905/1149 [======================>…] - ETA: 0s - loss: 0.7758
 690/1149 [=================>…] - ETA: 0s - loss: 0.1335
 430/1149 [==========>…] - ETA: 0s - loss: 0.1285
1110/1148 [============================>.] - ETA: 0s - loss: 0.0802
 675/1149 [===============>…] - ETA: 0s - loss: 0.1087
1110/1149 [===========================>..] - ETA: 0s - loss: 0.2635
 365/1149 [=======>…] - ETA: 0s - loss: 0.1166
 795/1149 [==================>…] - ETA: 0s - loss: 0.1471
1035/1149 [==========================>…] - ETA: 0s - loss: 0.7192
1148/1148 [=============================] - 1s 458us/step - loss: 0.0799
Epoch 13/20

   5/1148 […] - ETA: 0s - loss: 0.0293
1149/1149 [=============================] - 1s 462us/step - loss: 0.2672
Epoch 5/20

   5/1149 […] - ETA: 0s - loss: 0.3116
 560/1149 [=============>…] - ETA: 0s - loss: 0.1236
1149/1149 [=============================] - 1s 444us/step - loss: 0.7598

 780/1149 [==================>…] - ETA: 0s - loss: 0.1153Epoch 4/20
```

```
   5/1149 […] - ETA: 0s - loss: 0.0767
 475/1149 [==========>…] - ETA: 0s - loss: 0.1485
 895/1149 [=====================>…] - ETA: 0s - loss: 0.1447
 120/1148 [==>…] - ETA: 0s - loss: 0.0565
 125/1149 [==>…] - ETA: 0s - loss: 0.2386
 660/1149 [===============>…] - ETA: 0s - loss: 0.1179
 875/1149 [====================>…] - ETA: 0s - loss: 0.1119
 105/1149 [=>…] - ETA: 0s - loss: 1.2110
 560/1149 [============>…] - ETA: 0s - loss: 0.1456
1000/1149 [========================>…] - ETA: 0s - loss: 0.1433
 210/1148 [====>…] - ETA: 0s - loss: 0.0665
 230/1149 [=====>…] - ETA: 0s - loss: 0.2135
 765/1149 [=================>…] - ETA: 0s - loss: 0.1183
 990/1149 [=======================>…] - ETA: 0s - loss: 0.1142
 685/1149 [===============>…] - ETA: 0s - loss: 0.1480
 185/1149 [===>…] - ETA: 0s - loss: 0.8906
1110/1149 [==========================>..] - ETA: 0s - loss: 0.1393
 330/1148 [=======>…] - ETA: 0s - loss: 0.0698
 330/1149 [=======>…] - ETA: 0s - loss: 0.1926
1149/1149 [=============================] - 1s 463us/step - loss: 0.1373
Epoch 14/15

   5/1149 […] - ETA: 0s - loss: 0.0812
 860/1149 [=====================>…] - ETA: 0s - loss: 0.1184
1120/1149 [===========================>.] - ETA: 0s - loss: 0.1214
 805/1149 [===================>…] - ETA: 0s - loss: 0.1416
 240/1149 [=====>…] - ETA: 0s - loss: 0.8176
 420/1148 [=========>…] - ETA: 0s - loss: 0.0735
 435/1149 [==========>…] - ETA: 0s - loss: 0.1982
1149/1149 [=============================] - 1s 470us/step - loss: 0.1219

 120/1149 [==>…] - ETA: 0s - loss: 0.1120Epoch 12/20

   5/1149 […] - ETA: 1s - loss: 0.0178
 990/1149 [=======================>…] - ETA: 0s - loss: 0.1156
 925/1149 [======================>…] - ETA: 0s - loss: 0.1339
 365/1149 [========>…] - ETA: 0s - loss: 0.7895
 535/1148 [===========>…] - ETA: 0s - loss: 0.0747
 555/1149 [============>…] - ETA: 0s - loss: 0.2044
 225/1149 [====>…] - ETA: 0s - loss: 0.1081
  65/1149 [>…] - ETA: 0s - loss: 0.1741
1125/1149 [==========================>.] - ETA: 0s - loss: 0.1308
1149/1149 [=============================] - 1s 461us/step - loss: 0.1298
Epoch 11/20

   5/1149 […] - ETA: 0s - loss: 0.2740
1020/1149 [========================>…] - ETA: 0s - loss: 0.1293
 475/1149 [==========>…] - ETA: 0s - loss: 0.7481
```

```
 640/1148 [==============>…] - ETA: 0s - loss: 0.0732
 640/1149 [==============>…] - ETA: 0s - loss: 0.2081
  80/1149 [=>…] - ETA: 1s - loss: 0.2020
 300/1149 [======>…] - ETA: 0s - loss: 0.1030
1065/1149 [==========================>…] - ETA: 0s - loss: 0.1287
  35/1149 […] - ETA: 2s - loss: 0.1480
 690/1148 [================>…] - ETA: 0s - loss: 0.0735
 525/1149 [===========>…] - ETA: 0s - loss: 0.7487
 695/1149 [================>…] - ETA: 0s - loss: 0.2017
 145/1149 [==>…] - ETA: 1s - loss: 0.1552
 355/1149 [========>…] - ETA: 0s - loss: 0.1278
1149/1149 [============================] - 1s 485us/step - loss: 0.1259

 110/1149 [=>…] - ETA: 1s - loss: 0.1391
 645/1149 [==============>…] - ETA: 0s - loss: 0.6950
 810/1148 [===================>…] - ETA: 0s - loss: 0.0714
 810/1149 [===================>…] - ETA: 0s - loss: 0.1914
 275/1149 [======>…] - ETA: 0s - loss: 0.1358
 470/1149 [==========>…] - ETA: 0s - loss: 0.1337
 215/1149 [====>…] - ETA: 0s - loss: 0.1606
 775/1149 [==================>…] - ETA: 0s - loss: 0.6948
 920/1148 [======================>…] - ETA: 0s - loss: 0.0749
 925/1149 [======================>…] - ETA: 0s - loss: 0.1963
 405/1149 [========>…] - ETA: 0s - loss: 0.1305
 575/1149 [=============>…] - ETA: 0s - loss: 0.1556
 380/1149 [=======>…] - ETA: 0s - loss: 0.1769
 875/1149 [====================>…] - ETA: 0s - loss: 0.6961
1030/1148 [=========================>…] - ETA: 0s - loss: 0.0806
1045/1149 [=========================>…] - ETA: 0s - loss: 0.1908
 540/1149 [=============>…] - ETA: 0s - loss: 0.1291
 680/1149 [===============>…] - ETA: 0s - loss: 0.1454
 540/1149 [=============>…] - ETA: 0s - loss: 0.1583
1148/1148 [============================] - 1s 492us/step - loss: 0.0797

1000/1149 [========================>…] - ETA: 0s - loss: 0.6915Epoch 14/20

   5/1148 […] - ETA: 0s - loss: 0.0890
1149/1149 [============================] - 1s 496us/step - loss: 0.1921
Epoch 6/20

   5/1149 […] - ETA: 0s - loss: 0.0827
 665/1149 [===============>…] - ETA: 0s - loss: 0.1370
 795/1149 [==================>…] - ETA: 0s - loss: 0.1426
 635/1149 [==============>…] - ETA: 0s - loss: 0.1478
1135/1149 [===========================>.] - ETA: 0s - loss: 0.6705
  85/1148 [=>…] - ETA: 0s - loss: 0.0670
1149/1149 [============================] - 1s 509us/step - loss: 0.6677
Epoch 5/20
```

```
   5/1149 […] – ETA: 0s – loss: 0.4672
 140/1149 [==>…] – ETA: 0s – loss: 0.1394
 795/1149 [===================>…] – ETA: 0s – loss: 0.1274
 915/1149 [=====================>…] – ETA: 0s – loss: 0.1392
 705/1149 [================>…] – ETA: 0s – loss: 0.1408
 165/1148 [===>…] – ETA: 0s – loss: 0.0704
 140/1149 [==>…] – ETA: 0s – loss: 0.7322
 275/1149 [======>…] – ETA: 0s – loss: 0.1787
 940/1149 [=====================>…] – ETA: 0s – loss: 0.1249Epoch 1/5

  10/1149 […] – ETA: 48s – loss: 1.4421
1035/1149 [==========================>…] – ETA: 0s – loss: 0.1370
 815/1149 [====================>…] – ETA: 0s – loss: 0.1404
 290/1148 [======>…] – ETA: 0s – loss: 0.0899
 250/1149 [=====>…] – ETA: 0s – loss: 0.6589
 365/1149 [========>…] – ETA: 0s – loss: 0.1817
  80/1149 [=>…] – ETA: 6s – loss: 1.3823
1055/1149 [==========================>…] – ETA: 0s – loss: 0.1207
1145/1149 [============================>.] – ETA: 0s – loss: 0.1333
1149/1149 [=============================] – 1s 501us/step – loss: 0.1348
Epoch 15/15

   5/1149 […] – ETA: 0s – loss: 0.0595
 975/1149 [=======================>…] – ETA: 0s – loss: 0.1330
 440/1148 [=========>…] – ETA: 0s – loss: 0.0842
 355/1149 [========>…] – ETA: 0s – loss: 0.5679
1149/1149 [=============================] – 1s 489us/step – loss: 0.1205

 470/1149 [==========>…] – ETA: 0s – loss: 0.1769Epoch 13/20

   5/1149 […] – ETA: 0s – loss: 0.0542
 100/1149 [=>…] – ETA: 5s – loss: 1.4003
 100/1149 [=>…] – ETA: 0s – loss: 0.1051
1115/1149 [===========================>.] – ETA: 0s – loss: 0.1284
 580/1148 [==============>…] – ETA: 0s – loss: 0.0821
 480/1149 [==========>…] – ETA: 0s – loss: 0.5731
 580/1149 [==============>…] – ETA: 0s – loss: 0.1696
 130/1149 [==>…] – ETA: 0s – loss: 0.1212
1149/1149 [=============================] – 1s 472us/step – loss: 0.1274
Epoch 12/20

   5/1149 […] – ETA: 0s – loss: 0.0620
 200/1149 [====>…] – ETA: 2s – loss: 1.2165
 195/1149 [====>…] – ETA: 0s – loss: 0.1111
 695/1148 [================>…] – ETA: 0s – loss: 0.0813
 595/1149 [==============>…] – ETA: 0s – loss: 0.5813
 695/1149 [================>…] – ETA: 0s – loss: 0.1609
```

```
 250/1149 [=====>…] - ETA: 0s - loss: 0.1089
 135/1149 [==>…] - ETA: 0s - loss: 0.1224
 340/1149 [=======>…] - ETA: 1s - loss: 1.1636
 315/1149 [=======>…] - ETA: 0s - loss: 0.1042
 795/1148 [==================>…] - ETA: 0s - loss: 0.0813
 715/1149 [================>…] - ETA: 0s - loss: 0.6112
 825/1149 [===================>…] - ETA: 0s - loss: 0.1505
 375/1149 [========>…] - ETA: 0s - loss: 0.1208
 260/1149 [=====>…] - ETA: 0s - loss: 0.1068
 450/1149 [=========>…] - ETA: 0s - loss: 0.1542
 430/1149 [=========>…] - ETA: 1s - loss: 1.1362
 915/1148 [====================>…] - ETA: 0s - loss: 0.0797
 825/1149 [===================>…] - ETA: 0s - loss: 0.6140
 955/1149 [=====================>…] - ETA: 0s - loss: 0.1490
 500/1149 [===========>…] - ETA: 0s - loss: 0.1129
 405/1149 [========>…] - ETA: 0s - loss: 0.1073
 560/1149 [============>…] - ETA: 0s - loss: 0.1657
 520/1149 [===========>…] - ETA: 0s - loss: 1.2140
1035/1148 [=========================>…] - ETA: 0s - loss: 0.0784
 925/1149 [======================>…] - ETA: 0s - loss: 0.6158
1075/1149 [==========================>..] - ETA: 0s - loss: 0.1462
 600/1149 [=============>…] - ETA: 0s - loss: 0.1132
 515/1149 [===========>…] - ETA: 0s - loss: 0.1043
 860/1149 [====================>…] - ETA: 0s - loss: 1.2333
 655/1149 [===============>…] - ETA: 0s - loss: 0.1535
1125/1148 [============================>.] - ETA: 0s - loss: 0.0796
 995/1149 [=======================>…] - ETA: 0s - loss: 0.5999
1149/1149 [==============================] - 1s 443us/step - loss: 0.1491
Epoch 7/20

   5/1149 […] - ETA: 0s - loss: 0.1133
 680/1149 [================>…] - ETA: 0s - loss: 0.1123
 590/1149 [=============>…] - ETA: 0s - loss: 0.0993
1149/1149 [==============================] - 1s 728us/step - loss: 1.1672


1148/1148 [==============================] - 1s 463us/step - loss: 0.0791
Epoch 2/5

  10/1149 […] - ETA: 0s - loss: 1.2526Epoch 15/20

   5/1148 […] - ETA: 0s - loss: 0.1454
 745/1149 [=================>…] - ETA: 0s - loss: 0.1466
1110/1149 [===========================>..] - ETA: 0s - loss: 0.5926
 110/1149 [=>…] - ETA: 0s - loss: 0.1230
 790/1149 [==================>…] - ETA: 0s - loss: 0.1145
 705/1149 [================>…] - ETA: 0s - loss: 0.1007
 270/1149 [======>…] - ETA: 0s - loss: 1.1984
 125/1148 [==>…] - ETA: 0s - loss: 0.0869
```

```
1149/1149 [==============================] - 1s 460us/step - loss: 0.5914
Epoch 6/20

   5/1149 [...] - ETA: 0s - loss: 1.0655
 840/1149 [====================>...] - ETA: 0s - loss: 0.1400Epoch 1/5

  10/1149 [...] - ETA: 37s - loss: 0.6487
 210/1149 [====>...] - ETA: 0s - loss: 0.1030
 910/1149 [=====================>...] - ETA: 0s - loss: 0.1207
 830/1149 [===================>...] - ETA: 0s - loss: 0.1252
 225/1148 [====>...] - ETA: 0s - loss: 0.0771
 945/1149 [======================>...] - ETA: 0s - loss: 0.1374
 130/1149 [==>...] - ETA: 0s - loss: 0.4745
 510/1149 [===========>...] - ETA: 0s - loss: 1.0836
 325/1149 [=======>...] - ETA: 0s - loss: 0.1025
1020/1149 [=========================>...] - ETA: 0s - loss: 0.1213
  90/1149 [=>...] - ETA: 4s - loss: 0.7897
 950/1149 [======================>...] - ETA: 0s - loss: 0.1310
 340/1148 [=======>...] - ETA: 0s - loss: 0.0744
1085/1149 [===========================>..] - ETA: 0s - loss: 0.1322
 240/1149 [=====>...] - ETA: 0s - loss: 0.5368
 750/1149 [=================>...] - ETA: 0s - loss: 1.0776
1149/1149 [==============================] - 1s 472us/step - loss: 0.1339

 450/1149 [=========>...] - ETA: 0s - loss: 0.1189
1135/1149 [=============================>.] - ETA: 0s - loss: 0.1177
1055/1149 [==========================>...] - ETA: 0s - loss: 0.1292
 130/1149 [==>...] - ETA: 3s - loss: 0.7895
 455/1148 [=========>...] - ETA: 0s - loss: 0.0731
1149/1149 [==============================] - 1s 459us/step - loss: 0.1191

 350/1149 [========>...] - ETA: 0s - loss: 0.5278Epoch 14/20

   5/1149 [...] - ETA: 0s - loss: 0.0243
1030/1149 [========================>...] - ETA: 0s - loss: 1.0555
 540/1149 [============>...] - ETA: 0s - loss: 0.1167
1135/1149 [============================>.] - ETA: 0s - loss: 0.1281
 575/1148 [=============>...] - ETA: 0s - loss: 0.0722
 470/1149 [==========>...] - ETA: 0s - loss: 0.4636
1149/1149 [==============================] - 0s 230us/step - loss: 1.0052

1149/1149 [==============================] - 1s 458us/step - loss: 0.1276
Epoch 3/5

  10/1149 [...] - ETA: 0s - loss: 1.3408
  85/1149 [=>...] - ETA: 0s - loss: 0.1339Epoch 13/20

   5/1149 [...] - ETA: 0s - loss: 0.0431
```

```
 180/1149 [===>…] - ETA: 2s - loss: 0.7938
 645/1149 [==============>…] - ETA: 0s - loss: 0.1175
 690/1148 [=================>…] - ETA: 0s - loss: 0.0752
 600/1149 [=============>…] - ETA: 0s - loss: 0.4654
 260/1149 [=====>…] - ETA: 0s - loss: 1.0616
 125/1149 [==>…] - ETA: 0s - loss: 0.1084
 215/1149 [====>…] - ETA: 0s - loss: 0.1138
 290/1149 [======>…] - ETA: 1s - loss: 0.8583
 720/1149 [================>…] - ETA: 0s - loss: 0.1256
 805/1148 [===================>…] - ETA: 0s - loss: 0.0783
 720/1149 [================>…] - ETA: 0s - loss: 0.4923
 440/1149 [=========>…] - ETA: 0s - loss: 0.9656
 225/1149 [====>…] - ETA: 0s - loss: 0.1047
 310/1149 [=======>…] - ETA: 0s - loss: 0.1314
 430/1149 [=========>…] - ETA: 1s - loss: 1.0333
 845/1149 [====================>…] - ETA: 0s - loss: 0.1361
 900/1148 [=====================>…] - ETA: 0s - loss: 0.0800
 670/1149 [===============>…] - ETA: 0s - loss: 0.8612
 835/1149 [===================>…] - ETA: 0s - loss: 0.4693
 360/1149 [========>…] - ETA: 0s - loss: 0.1001
 435/1149 [=========>…] - ETA: 0s - loss: 0.1146
 590/1149 [=============>…] - ETA: 0s - loss: 1.1770
 980/1149 [=======================>…] - ETA: 0s - loss: 0.1326
1000/1148 [=========================>…] - ETA: 0s - loss: 0.0782
 920/1149 [======================>…] - ETA: 0s - loss: 0.7655
 930/1149 [======================>…] - ETA: 0s - loss: 0.4934
 515/1149 [===========>…] - ETA: 0s - loss: 0.0973
 575/1149 [=============>…] - ETA: 0s - loss: 0.1123
1105/1149 [===========================>..] - ETA: 0s - loss: 0.1327
 710/1149 [================>…] - ETA: 0s - loss: 1.1549
1095/1148 [===========================>..] - ETA: 0s - loss: 0.0777
1149/1149 [=============================] - 0s 223us/step - loss: 0.7690
Epoch 4/5

  10/1149 […] - ETA: 0s - loss: 0.2161
1025/1149 [=======================>…] - ETA: 0s - loss: 0.5278
 625/1149 [==============>…] - ETA: 0s - loss: 0.1035
 670/1149 [===============>…] - ETA: 0s - loss: 0.1118
1149/1149 [=============================] - 1s 471us/step - loss: 0.1320
Epoch 8/20

   5/1149 […] - ETA: 0s - loss: 0.1638
1148/1148 [=============================] - 1s 470us/step - loss: 0.0789
Epoch 16/20

   5/1148 […] - ETA: 0s - loss: 0.0340
 790/1149 [==================>…] - ETA: 0s - loss: 1.1794
 250/1149 [=====>…] - ETA: 0s - loss: 0.6156
```

```
 725/1149 [=================>…] - ETA: 0s - loss: 0.1039
1145/1149 [============================>.] - ETA: 0s - loss: 0.5304
 775/1149 [==================>…] - ETA: 0s - loss: 0.1102
1149/1149 [==============================] - 1s 453us/step - loss: 0.5287
Epoch 7/20

   5/1149 […] - ETA: 0s - loss: 0.6392
 125/1149 [==>…] - ETA: 0s - loss: 0.1175
 125/1148 [==>…] - ETA: 0s - loss: 0.0838
 910/1149 [=====================>…] - ETA: 0s - loss: 1.1850
 470/1149 [==========>…] - ETA: 0s - loss: 0.5853
 820/1149 [===================>…] - ETA: 0s - loss: 0.1126
 905/1149 [=====================>…] - ETA: 0s - loss: 0.1078
 115/1149 [==>…] - ETA: 0s - loss: 0.6546
1149/1149 [==============================] - 1s 768us/step - loss: 1.1662

 225/1149 [====>…] - ETA: 0s - loss: 0.1033Epoch 2/5

  10/1149 […] - ETA: 0s - loss: 0.3729
 215/1148 [====>…] - ETA: 0s - loss: 0.0779
 640/1149 [==============>…] - ETA: 0s - loss: 0.6377
 910/1149 [=====================>…] - ETA: 0s - loss: 0.1114
1045/1149 [==========================>…] - ETA: 0s - loss: 0.1195
 265/1149 [=====>…] - ETA: 0s - loss: 0.5902
 315/1149 [=======>…] - ETA: 0s - loss: 0.1344
 390/1149 [========>…] - ETA: 0s - loss: 0.9621
 295/1148 [======>…] - ETA: 0s - loss: 0.0757
1149/1149 [==============================] - 1s 443us/step - loss: 0.1184
Epoch 15/20

   5/1149 […] - ETA: 0s - loss: 0.1415
 790/1149 [==================>…] - ETA: 0s - loss: 0.6176
1000/1149 [========================>…] - ETA: 0s - loss: 0.1106
 370/1149 [========>…] - ETA: 0s - loss: 0.5241
 420/1149 [=========>…] - ETA: 0s - loss: 0.1229
 680/1149 [===============>…] - ETA: 0s - loss: 1.0108
 410/1148 [========>…] - ETA: 0s - loss: 0.0718
1080/1149 [===========================>..] - ETA: 0s - loss: 0.5537
  70/1149 [>…] - ETA: 0s - loss: 0.1038
1125/1149 [===========================>.] - ETA: 0s - loss: 0.1254
 450/1149 [=========>…] - ETA: 0s - loss: 0.4861
1149/1149 [==============================] - 1s 454us/step - loss: 0.1252

 560/1149 [=============>…] - ETA: 0s - loss: 0.1223Epoch 14/20

   5/1149 […] - ETA: 0s - loss: 0.0406
1149/1149 [==============================] - 0s 236us/step - loss: 0.5502
Epoch 5/5
```

```
  10/1149 […] - ETA: 0s - loss: 0.3155
 860/1149 [===================>…] - ETA: 0s - loss: 1.0501
 510/1148 [===========>…] - ETA: 0s - loss: 0.0825
 165/1149 [===>…] - ETA: 0s - loss: 0.1410
 550/1149 [===========>…] - ETA: 0s - loss: 0.4673
 685/1149 [==============>…] - ETA: 0s - loss: 0.1232
 135/1149 [==>…] - ETA: 0s - loss: 0.1559
 260/1149 [=====>…] - ETA: 0s - loss: 0.4471
1050/1149 [========================>…] - ETA: 0s - loss: 1.0810
 640/1148 [==============>…] - ETA: 0s - loss: 0.0775
1149/1149 [============================] - 0s 202us/step - loss: 1.0554
Epoch 3/5

  10/1149 […] - ETA: 0s - loss: 1.6982
 275/1149 [======>…] - ETA: 0s - loss: 0.1228
 660/1149 [==============>…] - ETA: 0s - loss: 0.4902
 760/1149 [=================>…] - ETA: 0s - loss: 0.1250
 520/1149 [===========>…] - ETA: 0s - loss: 0.4011
 200/1149 [====>…] - ETA: 0s - loss: 0.1343
 770/1148 [=================>…] - ETA: 0s - loss: 0.0784
 270/1149 [======>…] - ETA: 0s - loss: 0.8903
 400/1149 [========>…] - ETA: 0s - loss: 0.1234
 790/1149 [=================>…] - ETA: 0s - loss: 0.4821
 835/1149 [===================>…] - ETA: 0s - loss: 0.1218
 780/1149 [=================>…] - ETA: 0s - loss: 0.3630
 275/1149 [======>…] - ETA: 0s - loss: 0.1245
 900/1148 [=====================>…] - ETA: 0s - loss: 0.0773
 560/1149 [============>…] - ETA: 0s - loss: 0.8991
 510/1149 [===========>…] - ETA: 0s - loss: 0.1313
 920/1149 [=====================>…] - ETA: 0s - loss: 0.5090
 940/1149 [=====================>…] - ETA: 0s - loss: 0.1200
1000/1149 [=======================>…] - ETA: 0s - loss: 0.3410
 390/1149 [========>…] - ETA: 0s - loss: 0.1124
 995/1148 [=======================>…] - ETA: 0s - loss: 0.0776
 750/1149 [=================>…] - ETA: 0s - loss: 0.8354Epoch 1/5

  10/1149 […] - ETA: 35s - loss: 1.1194
 610/1149 [=============>…] - ETA: 0s - loss: 0.1257
1045/1149 [========================>…] - ETA: 0s - loss: 0.4848
1149/1149 [============================] - 0s 220us/step - loss: 0.3337

1085/1149 [=========================>..] - ETA: 0s - loss: 0.1278
 530/1149 [===========>…] - ETA: 0s - loss: 0.1516
1085/1148 [=========================>..] - ETA: 0s - loss: 0.0788
 960/1149 [======================>…] - ETA: 0s - loss: 0.8937
1149/1149 [============================] - 1s 475us/step - loss: 0.1292
Epoch 9/20
```

```
   5/1149 […] - ETA: 0s - loss: 0.1223
1149/1149 [==============================] - 1s 437us/step - loss: 0.4770
Epoch 8/20

   5/1149 […] - ETA: 0s - loss: 0.9863
1148/1148 [==============================] - 1s 476us/step - loss: 0.0788

 730/1149 [=================>…] - ETA: 0s - loss: 0.1228
  40/1149 [>…] - ETA: 10s - loss: 0.8287Epoch 17/20

   5/1148 […] - ETA: 0s - loss: 0.1093
 680/1149 [================>…] - ETA: 0s - loss: 0.1432
1149/1149 [==============================] - 0s 211us/step - loss: 0.8906
Epoch 4/5

  10/1149 […] - ETA: 0s - loss: 1.3639
 140/1149 [==>…] - ETA: 0s - loss: 0.1016
 125/1149 [==>…] - ETA: 0s - loss: 0.3478
 865/1149 [====================>…] - ETA: 0s - loss: 0.1243
 120/1149 [==>…] - ETA: 3s - loss: 0.9699
 140/1148 [==>…] - ETA: 0s - loss: 0.0890
 785/1149 [==================>…] - ETA: 0s - loss: 0.1390
 210/1149 [====>…] - ETA: 0s - loss: 0.7319
 255/1149 [=====>…] - ETA: 0s - loss: 0.1124
 215/1149 [====>…] - ETA: 0s - loss: 0.4599
 985/1149 [=======================>…] - ETA: 0s - loss: 0.1214
 260/1148 [=====>…] - ETA: 0s - loss: 0.0746
 210/1149 [====>…] - ETA: 2s - loss: 0.9275
 885/1149 [=====================>…] - ETA: 0s - loss: 0.1327
 420/1149 [========>…] - ETA: 0s - loss: 0.8800
 375/1149 [========>…] - ETA: 0s - loss: 0.1140
 335/1149 [=======>…] - ETA: 0s - loss: 0.5356
1125/1149 [============================>.] - ETA: 0s - loss: 0.1181
 370/1148 [========>…] - ETA: 0s - loss: 0.0713
 290/1149 [======>…] - ETA: 1s - loss: 0.9055
1149/1149 [==============================] - 1s 459us/step - loss: 0.1170
Epoch 16/20

   5/1149 […] - ETA: 0s - loss: 0.0823
1000/1149 [========================>…] - ETA: 0s - loss: 0.1287
 690/1149 [================>…] - ETA: 0s - loss: 0.8572
 495/1149 [==========>…] - ETA: 0s - loss: 0.1067
 445/1149 [==========>…] - ETA: 0s - loss: 0.4939
 485/1148 [==========>…] - ETA: 0s - loss: 0.0772
 380/1149 [========>…] - ETA: 1s - loss: 1.0310
 120/1149 [==>…] - ETA: 0s - loss: 0.1169
1085/1149 [==========================>..] - ETA: 0s - loss: 0.1263
```

```
 960/1149 [=========================>…] - ETA: 0s - loss: 0.7948
 625/1149 [===============>…] - ETA: 0s - loss: 0.1060
1149/1149 [==============================] - 1s 478us/step - loss: 0.1243


 575/1149 [==============>…] - ETA: 0s - loss: 0.4936Epoch 15/20


   5/1149 […] - ETA: 0s - loss: 0.0538
 590/1148 [==============>…] - ETA: 0s - loss: 0.0799
 430/1149 [=========>…] - ETA: 1s - loss: 1.0396
 220/1149 [====>…] - ETA: 0s - loss: 0.1036
1149/1149 [==============================] - 0s 219us/step - loss: 0.8013
Epoch 5/5


  10/1149 […] - ETA: 0s - loss: 0.8971
 725/1149 [=================>…] - ETA: 0s - loss: 0.1050
 675/1149 [================>…] - ETA: 0s - loss: 0.4746
 105/1149 [=>…] - ETA: 0s - loss: 0.0935
 700/1148 [=================>…] - ETA: 0s - loss: 0.0754
 590/1149 [==============>…] - ETA: 0s - loss: 1.0735
 315/1149 [=======>…] - ETA: 0s - loss: 0.1031
 200/1149 [====>…] - ETA: 0s - loss: 0.6611
 825/1149 [====================>…] - ETA: 0s - loss: 0.1045
 785/1149 [===================>…] - ETA: 0s - loss: 0.4390
 200/1149 [====>…] - ETA: 0s - loss: 0.1024
 805/1148 [===================>…] - ETA: 0s - loss: 0.0752
 770/1149 [==================>…] - ETA: 0s - loss: 1.1522
 435/1149 [=========>…] - ETA: 0s - loss: 0.1077
 420/1149 [=========>…] - ETA: 0s - loss: 0.6355
 935/1149 [======================>…] - ETA: 0s - loss: 0.1284
 315/1149 [=======>…] - ETA: 0s - loss: 0.0977
 905/1149 [=====================>…] - ETA: 0s - loss: 0.4548
 915/1148 [======================>…] - ETA: 0s - loss: 0.0766
 560/1149 [=============>…] - ETA: 0s - loss: 0.1125
 890/1149 [=====================>…] - ETA: 0s - loss: 1.1424
 620/1149 [===============>…] - ETA: 0s - loss: 0.7359
1045/1149 [==========================>…] - ETA: 0s - loss: 0.1280
 450/1149 [=========>…] - ETA: 0s - loss: 0.1025
1030/1149 [==========================>…] - ETA: 0s - loss: 0.4430
1030/1148 [==========================>…] - ETA: 0s - loss: 0.0772
 690/1149 [================>…] - ETA: 0s - loss: 0.1109
 950/1149 [======================>…] - ETA: 0s - loss: 1.1480
 820/1149 [===================>…] - ETA: 0s - loss: 0.7332
1140/1149 [=============================>.] - ETA: 0s - loss: 0.1264
1149/1149 [==============================] - 1s 447us/step - loss: 0.4338


1149/1149 [==============================] - 1s 451us/step - loss: 0.1257
Epoch 9/20
```

```
   5/1149 […] - ETA: 0s - loss: 0.0229
 595/1149 [==============>…] - ETA: 0s - loss: 0.1343Epoch 10/20

   5/1149 […] - ETA: 0s - loss: 0.1524
1125/1148 [============================>.] - ETA: 0s - loss: 0.0759
 825/1149 [====================>…] - ETA: 0s - loss: 0.1084
1100/1149 [===========================>..] - ETA: 0s - loss: 1.1366
1148/1148 [=============================] - 1s 463us/step - loss: 0.0783
Epoch 18/20

   5/1148 […] - ETA: 0s - loss: 0.1297
1040/1149 [==========================>…] - ETA: 0s - loss: 0.7402
1149/1149 [=============================] - 1s 789us/step - loss: 1.1131
Epoch 2/5

  10/1149 […] - ETA: 0s - loss: 1.5833Epoch 1/5

  10/1149 […] - ETA: 31s - loss: 0.7768
1149/1149 [=============================] - 0s 244us/step - loss: 0.7387

 705/1149 [=================>…] - ETA: 0s - loss: 0.1325
 115/1149 [==>…] - ETA: 0s - loss: 0.5253
 145/1149 [==>…] - ETA: 0s - loss: 0.0933
 940/1149 [=======================>…] - ETA: 0s - loss: 0.1078
 105/1148 [=>…] - ETA: 0s - loss: 0.1245
 330/1149 [=======>…] - ETA: 0s - loss: 0.9350
  70/1149 [>…] - ETA: 5s - loss: 1.3533
 825/1149 [====================>…] - ETA: 0s - loss: 0.1394
 220/1149 [====>…] - ETA: 0s - loss: 0.4951
 275/1149 [======>…] - ETA: 0s - loss: 0.0912
1060/1149 [==========================>…] - ETA: 0s - loss: 0.1201
 225/1148 [====>…] - ETA: 0s - loss: 0.0992
 720/1149 [=================>…] - ETA: 0s - loss: 0.9688
 965/1149 [=======================>…] - ETA: 0s - loss: 0.1312
 350/1149 [========>…] - ETA: 0s - loss: 0.4690
1149/1149 [=============================] - 1s 438us/step - loss: 0.1169

 110/1149 [=>…] - ETA: 3s - loss: 1.2475
 405/1149 [=========>…] - ETA: 0s - loss: 0.0946Epoch 17/20

   5/1149 […] - ETA: 0s - loss: 0.0495
 335/1148 [=======>…] - ETA: 0s - loss: 0.0907
 990/1149 [=======================>…] - ETA: 0s - loss: 0.9579
1090/1149 [===========================>..] - ETA: 0s - loss: 0.1284
 465/1149 [==========>…] - ETA: 0s - loss: 0.5061
 535/1149 [============>…] - ETA: 0s - loss: 0.1005
 115/1149 [==>…] - ETA: 0s - loss: 0.1217
1149/1149 [=============================] - 0s 160us/step - loss: 0.9646
```

```
Epoch 3/5

  10/1149 […] - ETA: 0s - loss: 0.1995
 160/1149 [===>…] - ETA: 2s - loss: 1.2662
 455/1148 [=========>…] - ETA: 0s - loss: 0.0864
1149/1149 [==============================] - 0s 427us/step - loss: 0.1262
Epoch 16/20

   5/1149 […] - ETA: 0s - loss: 0.0374
 655/1149 [===============>…] - ETA: 0s - loss: 0.1035
 585/1149 [==============>…] - ETA: 0s - loss: 0.4869
 240/1149 [=====>…] - ETA: 1s - loss: 1.3296
 215/1149 [====>…] - ETA: 0s - loss: 0.1479
 270/1149 [======>…] - ETA: 0s - loss: 0.9640
 585/1148 [==============>…] - ETA: 0s - loss: 0.0866
 120/1149 [==>…] - ETA: 0s - loss: 0.1201
 760/1149 [=================>…] - ETA: 0s - loss: 0.1055
 705/1149 [=================>…] - ETA: 0s - loss: 0.4459
 330/1149 [=======>…] - ETA: 0s - loss: 0.1377
 480/1149 [==========>…] - ETA: 0s - loss: 0.9415
 440/1149 [=========>…] - ETA: 0s - loss: 1.2499
 710/1148 [=================>…] - ETA: 0s - loss: 0.0836
 210/1149 [====>…] - ETA: 0s - loss: 0.2073
 810/1149 [==================>…] - ETA: 0s - loss: 0.4247
 880/1149 [=====================>…] - ETA: 0s - loss: 0.1178
 455/1149 [=========>…] - ETA: 0s - loss: 0.1199
 690/1149 [=================>…] - ETA: 0s - loss: 0.8838
 580/1149 [==============>…] - ETA: 0s - loss: 1.2215
 815/1148 [====================>…] - ETA: 0s - loss: 0.0806
 305/1149 [======>…] - ETA: 0s - loss: 0.1744
 990/1149 [=======================>…] - ETA: 0s - loss: 0.1197
 925/1149 [======================>…] - ETA: 0s - loss: 0.4280
 570/1149 [============>…] - ETA: 0s - loss: 0.1203
 860/1149 [====================>…] - ETA: 0s - loss: 0.8593
 830/1149 [====================>…] - ETA: 0s - loss: 1.1869
 920/1148 [======================>…] - ETA: 0s - loss: 0.0821
 405/1149 [========>…] - ETA: 0s - loss: 0.1543
1135/1149 [=============================>.] - ETA: 0s - loss: 0.1232
1045/1149 [=========================>…] - ETA: 0s - loss: 0.4177
 705/1149 [=================>…] - ETA: 0s - loss: 0.1256
1149/1149 [==============================] - 0s 410us/step - loss: 0.1234
Epoch 11/20

   5/1149 […] - ETA: 0s - loss: 0.0781
1040/1149 [=========================>…] - ETA: 0s - loss: 0.8884
1090/1149 [==========================>..] - ETA: 0s - loss: 1.0901
1000/1148 [========================>…] - ETA: 0s - loss: 0.0807
 480/1149 [==========>…] - ETA: 0s - loss: 0.1455
```

```
1149/1149 [==============================] - 1s 632us/step - loss: 1.0748
Epoch 2/5

  10/1149 […] - ETA: 0s - loss: 0.2837
1149/1149 [==============================] - 1s 442us/step - loss: 0.3955


1149/1149 [==============================] - 0s 256us/step - loss: 0.8372
Epoch 10/20

   5/1149 […] - ETA: 0s - loss: 0.0414Epoch 4/5

  10/1149 […] - ETA: 0s - loss: 1.1198
 815/1149 [====================>…] - ETA: 0s - loss: 0.1210
 115/1149 [==>…] - ETA: 0s - loss: 0.1029
1105/1148 [============================>..] - ETA: 0s - loss: 0.0785
 605/1149 [==============>…] - ETA: 0s - loss: 0.1353
 210/1149 [====>…] - ETA: 0s - loss: 1.0643
1148/1148 [==============================] - 1s 465us/step - loss: 0.0784
Epoch 19/20

   5/1148 […] - ETA: 0s - loss: 0.0372
  90/1149 [=>…] - ETA: 0s - loss: 0.3000
 280/1149 [======>…] - ETA: 0s - loss: 0.7837
 915/1149 [=====================>…] - ETA: 0s - loss: 0.1200
 215/1149 [====>…] - ETA: 0s - loss: 0.1144
 745/1149 [==================>…] - ETA: 0s - loss: 0.1370
 440/1149 [==========>…] - ETA: 0s - loss: 1.1743
 120/1148 [==>…] - ETA: 0s - loss: 0.0810
 560/1149 [=============>…] - ETA: 0s - loss: 0.7275
 180/1149 [===>…] - ETA: 0s - loss: 0.4715
1015/1149 [=========================>…] - ETA: 0s - loss: 0.1214
 300/1149 [======>…] - ETA: 0s - loss: 0.1344
 870/1149 [====================>…] - ETA: 0s - loss: 0.1341
 660/1149 [===============>…] - ETA: 0s - loss: 1.0489
 250/1148 [=====>…] - ETA: 0s - loss: 0.0728
 800/1149 [==================>…] - ETA: 0s - loss: 0.7259
 300/1149 [======>…] - ETA: 0s - loss: 0.4784
1125/1149 [=============================>.] - ETA: 0s - loss: 0.1170
 430/1149 [=========>…] - ETA: 0s - loss: 0.1356
1149/1149 [==============================] - 1s 461us/step - loss: 0.1157
Epoch 18/20

   5/1149 […] - ETA: 0s - loss: 0.0504
 970/1149 [=======================>…] - ETA: 0s - loss: 0.1283
 870/1149 [====================>…] - ETA: 0s - loss: 0.9732
 370/1148 [========>…] - ETA: 0s - loss: 0.0741
 435/1149 [==========>…] - ETA: 0s - loss: 0.4068
1000/1149 [========================>…] - ETA: 0s - loss: 0.7562
```

```
 565/1149 [=============>…] - ETA: 0s - loss: 0.1283
 120/1149 [==>…] - ETA: 0s - loss: 0.1169
1060/1149 [==========================>…] - ETA: 0s - loss: 0.1250
1070/1149 [==========================>…] - ETA: 0s - loss: 0.9229
1149/1149 [==============================] - 0s 216us/step - loss: 0.7635
Epoch 5/5

  10/1149 […] - ETA: 0s - loss: 0.9529
 495/1148 [==========>…] - ETA: 0s - loss: 0.0743
 560/1149 [=============>…] - ETA: 0s - loss: 0.3741Epoch 1/10

  10/1148 […] - ETA: 33s - loss: 0.3114
1149/1149 [==============================] - 0s 241us/step - loss: 0.8990
Epoch 3/5

  10/1149 […] - ETA: 0s - loss: 0.8857
 680/1149 [================>…] - ETA: 0s - loss: 0.1225
1149/1149 [==============================] - 1s 480us/step - loss: 0.1235
Epoch 17/20

   5/1149 […] - ETA: 0s - loss: 0.0382
 230/1149 [=====>…] - ETA: 0s - loss: 0.0960
 260/1149 [=====>…] - ETA: 0s - loss: 0.7330
 625/1148 [===============>…] - ETA: 0s - loss: 0.0746
 665/1149 [================>…] - ETA: 0s - loss: 0.4181
 230/1149 [=====>…] - ETA: 0s - loss: 0.5958
 100/1148 [=>…] - ETA: 3s - loss: 0.4232
 805/1149 [===================>…] - ETA: 0s - loss: 0.1178
 140/1149 [==>…] - ETA: 0s - loss: 0.2245
 365/1149 [========>…] - ETA: 0s - loss: 0.1033
 490/1149 [==========>…] - ETA: 0s - loss: 0.7484
 745/1148 [==================>…] - ETA: 0s - loss: 0.0766
 765/1149 [==================>…] - ETA: 0s - loss: 0.3978
 480/1149 [==========>…] - ETA: 0s - loss: 0.6337
 190/1148 [===>…] - ETA: 2s - loss: 0.3687
 915/1149 [=====================>…] - ETA: 0s - loss: 0.1288
 260/1149 [=====>…] - ETA: 0s - loss: 0.1880
 475/1149 [==========>…] - ETA: 0s - loss: 0.0976
 680/1149 [================>…] - ETA: 0s - loss: 0.7912
 840/1148 [===================>…] - ETA: 0s - loss: 0.0770
 855/1149 [=====================>…] - ETA: 0s - loss: 0.3809
 680/1149 [================>…] - ETA: 0s - loss: 0.5928
 270/1148 [======>…] - ETA: 1s - loss: 0.3789
 995/1149 [========================>…] - ETA: 0s - loss: 0.1233
 345/1149 [========>…] - ETA: 0s - loss: 0.1602
 560/1149 [=============>…] - ETA: 0s - loss: 0.0972
 900/1149 [=====================>…] - ETA: 0s - loss: 0.7264
 965/1149 [=======================>…] - ETA: 0s - loss: 0.3751
```

```
 945/1148 [======================>…] - ETA: 0s - loss: 0.0821
 920/1149 [======================>…] - ETA: 0s - loss: 0.5501
1100/1149 [============================>..] - ETA: 0s - loss: 0.1223
 350/1148 [========>…] - ETA: 1s - loss: 0.3470
 465/1149 [==========>…] - ETA: 0s - loss: 0.1544
 695/1149 [================>…] - ETA: 0s - loss: 0.1035
1149/1149 [==============================] - 0s 222us/step - loss: 0.7078

1149/1149 [==============================] - 1s 477us/step - loss: 0.1218
Epoch 12/20

   5/1149 […] - ETA: 0s - loss: 0.1198
1085/1149 [===========================>..] - ETA: 0s - loss: 0.3689
1055/1148 [==========================>…] - ETA: 0s - loss: 0.0801
1140/1149 [=============================>.] - ETA: 0s - loss: 0.5310
1149/1149 [==============================] - 0s 226us/step - loss: 0.5289
Epoch 4/5

  10/1149 […] - ETA: 0s - loss: 0.1315
 800/1149 [==================>…] - ETA: 0s - loss: 0.1006
 600/1149 [=============>…] - ETA: 0s - loss: 0.1412
 470/1148 [==========>…] - ETA: 0s - loss: 0.3483
1149/1149 [==============================] - 1s 476us/step - loss: 0.3613
Epoch 11/20

   5/1149 […] - ETA: 0s - loss: 0.1272
1148/1148 [==============================] - 1s 442us/step - loss: 0.0784
Epoch 20/20

   5/1148 […] - ETA: 0s - loss: 0.0592
 150/1149 [==>…] - ETA: 0s - loss: 0.0814
 260/1149 [=====>…] - ETA: 0s - loss: 0.3072
 715/1149 [=================>…] - ETA: 0s - loss: 0.1360
 910/1149 [=====================>…] - ETA: 0s - loss: 0.1048
 680/1148 [================>…] - ETA: 0s - loss: 0.3357
 135/1149 [==>…] - ETA: 0s - loss: 0.3198
 145/1148 [==>…] - ETA: 0s - loss: 0.0777
 270/1149 [=====>…] - ETA: 0s - loss: 0.0868
 500/1149 [===========>…] - ETA: 0s - loss: 0.2773
1010/1149 [=======================>…] - ETA: 0s - loss: 0.1154
 840/1149 [===================>…] - ETA: 0s - loss: 0.1341
 880/1148 [===================>…] - ETA: 0s - loss: 0.3246
 270/1149 [=====>…] - ETA: 0s - loss: 0.2779
 270/1148 [=====>…] - ETA: 0s - loss: 0.0737
 400/1149 [========>…] - ETA: 0s - loss: 0.0978
 730/1149 [=================>…] - ETA: 0s - loss: 0.2538
1080/1149 [===========================>..] - ETA: 0s - loss: 0.1149
 970/1149 [======================>…] - ETA: 0s - loss: 0.1263
```

```
1000/1148 [=========================>…] - ETA: 0s - loss: 0.3191
 390/1149 [=========>…] - ETA: 0s - loss: 0.3183
 390/1148 [=========>…] - ETA: 0s - loss: 0.0710
1149/1149 [==============================] - 1s 469us/step - loss: 0.1144


 540/1149 [=============>…] - ETA: 0s - loss: 0.0995Epoch 19/20


   5/1149 […] - ETA: 0s - loss: 0.1897
1148/1148 [==============================] - 1s 660us/step - loss: 0.3149
Epoch 2/10


  10/1148 […] - ETA: 0s - loss: 0.2524
 930/1149 [=======================>…] - ETA: 0s - loss: 0.2470
1110/1149 [============================>..] - ETA: 0s - loss: 0.1234
 515/1149 [=============>…] - ETA: 0s - loss: 0.3610
1149/1149 [==============================] - 0s 422us/step - loss: 0.1220
Epoch 18/20


   5/1149 […] - ETA: 0s - loss: 0.0157
 505/1148 [============>…] - ETA: 0s - loss: 0.0727
 680/1149 [================>…] - ETA: 0s - loss: 0.0991
1149/1149 [==============================] - 0s 218us/step - loss: 0.2458


 120/1149 [==>…] - ETA: 0s - loss: 0.1106Epoch 5/5


  10/1149 […] - ETA: 0s - loss: 0.2020
 250/1148 [=====>…] - ETA: 0s - loss: 0.1977
 640/1149 [===============>…] - ETA: 0s - loss: 0.3357
 105/1149 [=>…] - ETA: 0s - loss: 0.1516
 585/1148 [=============>…] - ETA: 0s - loss: 0.0769
 800/1149 [==================>…] - ETA: 0s - loss: 0.0991
 250/1149 [=====>…] - ETA: 0s - loss: 0.1346
 250/1149 [=====>…] - ETA: 0s - loss: 0.1789
 440/1148 [=========>…] - ETA: 0s - loss: 0.1878
 745/1149 [=================>…] - ETA: 0s - loss: 0.3410
 665/1148 [===============>…] - ETA: 0s - loss: 0.0763
 915/1149 [=====================>…] - ETA: 0s - loss: 0.1129
 190/1149 [===>…] - ETA: 0s - loss: 0.1413
 395/1149 [=========>…] - ETA: 0s - loss: 0.1282
 430/1149 [=========>…] - ETA: 0s - loss: 0.1801
 570/1148 [=============>…] - ETA: 0s - loss: 0.1870
 845/1149 [===================>…] - ETA: 0s - loss: 0.3474
 800/1148 [==================>…] - ETA: 0s - loss: 0.0775
 285/1149 [======>…] - ETA: 0s - loss: 0.1254
1010/1149 [=========================>…] - ETA: 0s - loss: 0.1213
 480/1149 [==========>…] - ETA: 0s - loss: 0.1236
 630/1149 [==============>…] - ETA: 0s - loss: 0.1625
 790/1148 [==================>…] - ETA: 0s - loss: 0.1813
```

```
 935/1149 [=======================>…] - ETA: 0s - loss: 0.3338
 925/1148 [=======================>…] - ETA: 0s - loss: 0.0769
 390/1149 [========>…] - ETA: 0s - loss: 0.1219
1110/1149 [==========================>..] - ETA: 0s - loss: 0.1219
 570/1149 [============>…] - ETA: 0s - loss: 0.1193
1020/1148 [=========================>…] - ETA: 0s - loss: 0.1807
 830/1149 [===================>…] - ETA: 0s - loss: 0.1685
1149/1149 [=============================] - 0s 425us/step - loss: 0.1211
Epoch 13/20

   5/1149 […] - ETA: 0s - loss: 0.0148
1148/1148 [=============================] - 0s 247us/step - loss: 0.1827
Epoch 3/10

  10/1148 […] - ETA: 0s - loss: 0.1412
1040/1149 [=========================>…] - ETA: 0s - loss: 0.3462
1030/1148 [=========================>…] - ETA: 0s - loss: 0.0780
 510/1149 [============>…] - ETA: 0s - loss: 0.1158
 680/1149 [================>…] - ETA: 0s - loss: 0.1177
1010/1149 [=========================>…] - ETA: 0s - loss: 0.1717
  90/1149 [=>…] - ETA: 0s - loss: 0.0828
 240/1148 [=====>…] - ETA: 0s - loss: 0.1541
1149/1149 [=============================] - 0s 254us/step - loss: 0.1752

1145/1149 [==========================>.] - ETA: 0s - loss: 0.3321
1130/1148 [==========================>.] - ETA: 0s - loss: 0.0787
1149/1149 [=============================] - 1s 458us/step - loss: 0.3318
Epoch 12/20

   5/1149 […] - ETA: 0s - loss: 0.0647
 625/1149 [==============>…] - ETA: 0s - loss: 0.1091
1148/1148 [=============================] - 1s 454us/step - loss: 0.0783

 790/1149 [==================>…] - ETA: 0s - loss: 0.1292
 185/1149 [===>…] - ETA: 0s - loss: 0.0843
 480/1148 [==========>…] - ETA: 0s - loss: 0.1341
 120/1149 [==>…] - ETA: 0s - loss: 0.2445
 745/1149 [=================>…] - ETA: 0s - loss: 0.1318
 920/1149 [======================>…] - ETA: 0s - loss: 0.1220
 315/1149 [=======>…] - ETA: 0s - loss: 0.0929
 770/1148 [==================>…] - ETA: 0s - loss: 0.1363
 265/1149 [=====>…] - ETA: 0s - loss: 0.3604
 880/1149 [===================>…] - ETA: 0s - loss: 0.1296
1030/1149 [========================>…] - ETA: 0s - loss: 0.1176
 445/1149 [=========>…] - ETA: 0s - loss: 0.1263
1010/1148 [========================>…] - ETA: 0s - loss: 0.1322
 415/1149 [========>…] - ETA: 0s - loss: 0.3375
1005/1149 [========================>…] - ETA: 0s - loss: 0.1247
```

```
1145/1149 [============================>.] - ETA: 0s - loss: 0.1154
1149/1149 [==============================] - 1s 452us/step - loss: 0.1150
Epoch 20/20

   5/1149 […] - ETA: 0s - loss: 0.0485
1148/1148 [==============================] - 0s 200us/step - loss: 0.1280
Epoch 4/10

  10/1148 […] - ETA: 0s - loss: 0.1174
 585/1149 [=============>…] - ETA: 0s - loss: 0.1184
 535/1149 [============>…] - ETA: 0s - loss: 0.3284
1105/1149 [==========================>..] - ETA: 0s - loss: 0.1205
 135/1149 [==>…] - ETA: 0s - loss: 0.1065
 210/1148 [====>…] - ETA: 0s - loss: 0.1490
1149/1149 [==============================] - 1s 471us/step - loss: 0.1197
Epoch 19/20

   5/1149 […] - ETA: 0s - loss: 0.2119
 710/1149 [================>…] - ETA: 0s - loss: 0.1177
 625/1149 [==============>…] - ETA: 0s - loss: 0.3793
 255/1149 [=====>…] - ETA: 0s - loss: 0.1092
 400/1148 [=========>…] - ETA: 0s - loss: 0.1278
  90/1149 [=>…] - ETA: 0s - loss: 0.2818
 840/1149 [===================>…] - ETA: 0s - loss: 0.1169
 725/1149 [=================>…] - ETA: 0s - loss: 0.3633
 355/1149 [=======>…] - ETA: 0s - loss: 0.1081
 590/1148 [=============>…] - ETA: 0s - loss: 0.1219
 195/1149 [====>…] - ETA: 0s - loss: 0.1803
 950/1149 [======================>…] - ETA: 0s - loss: 0.1236
 855/1149 [====================>…] - ETA: 0s - loss: 0.3431Epoch 1/10

  10/1149 […] - ETA: 33s - loss: 2.9164
 465/1149 [==========>…] - ETA: 0s - loss: 0.0988
 830/1148 [===================>…] - ETA: 0s - loss: 0.1151
 315/1149 [=======>…] - ETA: 0s - loss: 0.1498
1055/1149 [=========================>…] - ETA: 0s - loss: 0.1205
 960/1149 [=======================>…] - ETA: 0s - loss: 0.3278
 110/1149 [=>…] - ETA: 3s - loss: 1.2431
 585/1149 [=============>…] - ETA: 0s - loss: 0.1045
1070/1148 [=========================>…] - ETA: 0s - loss: 0.1123
1149/1149 [==============================] - 1s 442us/step - loss: 0.1198
Epoch 14/20

   5/1149 […] - ETA: 0s - loss: 0.0131
 460/1149 [==========>…] - ETA: 0s - loss: 0.1230
1148/1148 [==============================] - 0s 244us/step - loss: 0.1113
Epoch 5/10
```

```
   10/1148 […] - ETA: 0s - loss: 0.1063
1075/1149 [===========================>..] - ETA: 0s - loss: 0.3084
 200/1149 [====>…] - ETA: 1s - loss: 1.1663
 710/1149 [================>…] - ETA: 0s - loss: 0.1127
 135/1149 [==>…] - ETA: 0s - loss: 0.0826
 580/1149 [=============>…] - ETA: 0s - loss: 0.1132
1149/1149 [==============================] - 0s 432us/step - loss: 0.3070


 230/1148 [=====>…] - ETA: 0s - loss: 0.0961Epoch 13/20


   5/1149 […] - ETA: 0s - loss: 0.1034
 280/1149 [======>…] - ETA: 1s - loss: 1.2096
 840/1149 [===================>…] - ETA: 0s - loss: 0.1192Epoch 1/10


  10/1149 […] - ETA: 29s - loss: 1.3820
 710/1149 [================>…] - ETA: 0s - loss: 0.1129
 265/1149 [=====>…] - ETA: 0s - loss: 0.1117
 470/1148 [==========>…] - ETA: 0s - loss: 0.0984
 115/1149 [==>…] - ETA: 0s - loss: 0.2935
 430/1149 [=========>…] - ETA: 0s - loss: 1.1941
 965/1149 [=======================>…] - ETA: 0s - loss: 0.1178
 835/1149 [===================>…] - ETA: 0s - loss: 0.1188
 385/1149 [=========>…] - ETA: 0s - loss: 0.1045
  90/1149 [=>…] - ETA: 3s - loss: 0.8455
 730/1148 [=================>…] - ETA: 0s - loss: 0.0986
 240/1149 [=====>…] - ETA: 0s - loss: 0.2495
 660/1149 [===============>…] - ETA: 0s - loss: 1.1702
1070/1149 [==========================>…] - ETA: 0s - loss: 0.1154
 950/1149 [=======================>…] - ETA: 0s - loss: 0.1203
 505/1149 [===========>…] - ETA: 0s - loss: 0.1032
 230/1149 [=====>…] - ETA: 1s - loss: 0.9486Epoch 1/10


  10/1149 […] - ETA: 31s - loss: 1.7335
 990/1148 [========================>…] - ETA: 0s - loss: 0.1027
 365/1149 [========>…] - ETA: 0s - loss: 0.3261
1149/1149 [==============================] - 1s 437us/step - loss: 0.1133


 920/1149 [======================>…] - ETA: 0s - loss: 1.1631
1060/1149 [=========================>…] - ETA: 0s - loss: 0.1237
 220/1149 [====>…] - ETA: 1s - loss: 1.1802
 625/1149 [==============>…] - ETA: 0s - loss: 0.1169
1148/1148 [==============================] - 0s 219us/step - loss: 0.1020


 485/1149 [===========>…] - ETA: 0s - loss: 0.2886Epoch 6/10


  10/1148 […] - ETA: 0s - loss: 0.0513
 320/1149 [=======>…] - ETA: 1s - loss: 1.0204
1070/1149 [=========================>…] - ETA: 0s - loss: 1.1917
```

```
1149/1149 [==============================] - 1s 437us/step - loss: 0.1199
Epoch 20/20

   5/1149 […] - ETA: 0s - loss: 0.0771
 550/1149 [============>…] - ETA: 0s - loss: 1.1436
 735/1149 [=================>…] - ETA: 0s - loss: 0.1101
 600/1149 [=============>…] - ETA: 0s - loss: 0.2645
 200/1148 [====>…] - ETA: 0s - loss: 0.0954
1149/1149 [==============================] - 1s 603us/step - loss: 1.1732
Epoch 2/10

  10/1149 […] - ETA: 0s - loss: 2.3788
 380/1149 [========>…] - ETA: 0s - loss: 1.0844
 125/1149 [==>…] - ETA: 0s - loss: 0.1143
 850/1149 [=====================>…] - ETA: 0s - loss: 0.1079
 920/1149 [=======================>…] - ETA: 0s - loss: 1.0621
 420/1148 [=========>…] - ETA: 0s - loss: 0.0979
 750/1149 [==================>…] - ETA: 0s - loss: 0.2468
 140/1149 [==>…] - ETA: 0s - loss: 1.1277
 450/1149 [=========>…] - ETA: 0s - loss: 1.1828
 260/1149 [=====>…] - ETA: 0s - loss: 0.1015
 995/1149 [========================>…] - ETA: 0s - loss: 0.1095
 895/1149 [======================>…] - ETA: 0s - loss: 0.2512
 700/1148 [=================>…] - ETA: 0s - loss: 0.0984
 350/1149 [========>…] - ETA: 0s - loss: 1.1117
1010/1149 [=========================>…] - ETA: 0s - loss: 1.0374
 630/1149 [==============>…] - ETA: 0s - loss: 1.0596
 390/1149 [=========>…] - ETA: 0s - loss: 0.1027
1100/1149 [===========================>..] - ETA: 0s - loss: 0.1178
1010/1149 [=========================>…] - ETA: 0s - loss: 0.2589
 960/1148 [=======================>…] - ETA: 0s - loss: 0.0997
 580/1149 [==============>…] - ETA: 0s - loss: 1.1081
 880/1149 [====================>…] - ETA: 0s - loss: 1.2179
1070/1149 [==========================>…] - ETA: 0s - loss: 1.0429
1149/1149 [==============================] - 0s 430us/step - loss: 0.1180
Epoch 15/20

   5/1149 […] - ETA: 0s - loss: 0.2010
 520/1149 [============>…] - ETA: 0s - loss: 0.0997
1148/1148 [==============================] - 0s 212us/step - loss: 0.0970
Epoch 7/10

  10/1148 […] - ETA: 0s - loss: 0.0611
1120/1149 [============================>.] - ETA: 0s - loss: 0.2851
 840/1149 [====================>…] - ETA: 0s - loss: 1.1229
1080/1149 [==========================>..] - ETA: 0s - loss: 1.1734
1149/1149 [==============================] - 0s 413us/step - loss: 0.2846
Epoch 14/20
```

```
    5/1149 […] - ETA: 0s - loss: 0.5000
 1130/1149 [============================>.] - ETA: 0s - loss: 1.1029
 1149/1149 [=============================] - 1s 613us/step - loss: 1.1680

  100/1149 [=>…] - ETA: 0s - loss: 0.1079Epoch 2/10

   10/1149 […] - ETA: 0s - loss: 0.1355
  630/1149 [==============>…] - ETA: 0s - loss: 0.1022
  290/1148 [======>…] - ETA: 0s - loss: 0.0971
 1149/1149 [=============================] - 1s 552us/step - loss: 1.1056
Epoch 2/10

   10/1149 […] - ETA: 0s - loss: 0.1226
 1090/1149 [===========================>..] - ETA: 0s - loss: 1.0767
  105/1149 [=>…] - ETA: 0s - loss: 0.2561
  200/1149 [====>…] - ETA: 0s - loss: 0.1034
  200/1149 [====>…] - ETA: 0s - loss: 1.0191
 1149/1149 [=============================] - 0s 245us/step - loss: 1.0406

  735/1149 [=================>…] - ETA: 0s - loss: 0.1049
  520/1148 [============>…] - ETA: 0s - loss: 0.0915Epoch 3/10

   10/1149 […] - ETA: 0s - loss: 0.0820
   90/1149 [=>…] - ETA: 0s - loss: 0.8487
  210/1149 [====>…] - ETA: 0s - loss: 0.2351
  300/1149 [======>…] - ETA: 0s - loss: 0.1195
  300/1149 [======>…] - ETA: 0s - loss: 1.1146
  845/1149 [=====================>…] - ETA: 0s - loss: 0.1024
  110/1149 [=>…] - ETA: 0s - loss: 1.1978
  750/1148 [=================>…] - ETA: 0s - loss: 0.0967
  240/1149 [=====>…] - ETA: 0s - loss: 0.9815
  335/1149 [=======>…] - ETA: 0s - loss: 0.2089
  420/1149 [=========>…] - ETA: 0s - loss: 0.1513
  460/1149 [==========>…] - ETA: 0s - loss: 1.0936
  990/1148 [=======================>…] - ETA: 0s - loss: 0.0935
  970/1149 [=======================>…] - ETA: 0s - loss: 0.1065
  250/1149 [=====>…] - ETA: 0s - loss: 1.0507
  420/1149 [=========>…] - ETA: 0s - loss: 0.8731
 1148/1148 [============================] - 0s 206us/step - loss: 0.0935

  445/1149 [=========>…] - ETA: 0s - loss: 0.2200Epoch 8/10

   10/1148 […] - ETA: 0s - loss: 0.1627
  535/1149 [============>…] - ETA: 0s - loss: 0.1531
  610/1149 [==============>…] - ETA: 0s - loss: 1.1506
 1080/1149 [==========================>..] - ETA: 0s - loss: 0.1213
  410/1149 [=========>…] - ETA: 0s - loss: 1.0916
```

```
 650/1149 [===============>…] - ETA: 0s - loss: 0.9021
 540/1149 [============>…] - ETA: 0s - loss: 0.2293
 230/1148 [=====>…] - ETA: 0s - loss: 0.0801
1149/1149 [==============================] - 1s 436us/step - loss: 0.1187


 635/1149 [==============>…] - ETA: 0s - loss: 0.1415
 810/1149 [====================>…] - ETA: 0s - loss: 1.1239
 610/1149 [==============>…] - ETA: 0s - loss: 1.0523
 850/1149 [=====================>…] - ETA: 0s - loss: 0.9145
 615/1149 [==============>…] - ETA: 0s - loss: 0.2614
 400/1148 [=========>…] - ETA: 0s - loss: 0.0886
 710/1149 [=================>…] - ETA: 0s - loss: 0.1342
 980/1149 [=========================>…] - ETA: 0s - loss: 1.0928
 800/1149 [===================>…] - ETA: 0s - loss: 1.0041
1050/1149 [===========================>…] - ETA: 0s - loss: 0.9256
 700/1149 [=================>…] - ETA: 0s - loss: 0.2774
1149/1149 [==============================] - 0s 308us/step - loss: 1.0670


 600/1148 [=============>…] - ETA: 0s - loss: 0.0884Epoch 3/10


  10/1149 […] - ETA: 0s - loss: 0.2712
 815/1149 [====================>…] - ETA: 0s - loss: 0.1287
1149/1149 [==============================] - 0s 306us/step - loss: 0.8912


 990/1149 [========================>…] - ETA: 0s - loss: 0.9595Epoch 3/10


  10/1149 […] - ETA: 0s - loss: 1.3926
 795/1149 [===================>…] - ETA: 0s - loss: 0.2647
 220/1149 [====>…] - ETA: 0s - loss: 0.8650
 810/1148 [====================>…] - ETA: 0s - loss: 0.0941
1149/1149 [==============================] - 0s 302us/step - loss: 0.9154
Epoch 4/10


  10/1149 […] - ETA: 0s - loss: 0.5571
 920/1149 [======================>…] - ETA: 0s - loss: 0.1247
 240/1149 [=====>…] - ETA: 0s - loss: 0.6517
 905/1149 [======================>…] - ETA: 0s - loss: 0.2569
1040/1148 [==========================>…] - ETA: 0s - loss: 0.0912
 430/1149 [==========>…] - ETA: 0s - loss: 0.9506
 260/1149 [=====>…] - ETA: 0s - loss: 0.9818
1040/1149 [==========================>…] - ETA: 0s - loss: 0.1208
 510/1149 [===========>…] - ETA: 0s - loss: 0.5287
1148/1148 [==============================] - 0s 246us/step - loss: 0.0905
Epoch 9/10


  10/1148 […] - ETA: 0s - loss: 0.0472
1045/1149 [==========================>…] - ETA: 0s - loss: 0.2586
1149/1149 [==============================] - 1s 489us/step - loss: 0.1173
```

```
 490/1149 [===========>…] - ETA: 0s - loss: 0.8456
 700/1149 [=================>…] - ETA: 0s - loss: 0.9822Epoch 16/20

   5/1149 […] - ETA: 0s - loss: 0.1752
 760/1149 [==================>…] - ETA: 0s - loss: 0.5235
 240/1148 [=====>…] - ETA: 0s - loss: 0.0861
1149/1149 [==============================] - 1s 487us/step - loss: 0.2671
Epoch 15/20

   5/1149 […] - ETA: 0s - loss: 0.1128
 125/1149 [==>…] - ETA: 0s - loss: 0.0932
 730/1149 [==================>…] - ETA: 0s - loss: 0.8106
 970/1149 [========================>…] - ETA: 0s - loss: 0.8823
 990/1149 [=========================>…] - ETA: 0s - loss: 0.5189
 480/1148 [===========>…] - ETA: 0s - loss: 0.1012
 120/1149 [==>…] - ETA: 0s - loss: 0.4263
1149/1149 [==============================] - 0s 221us/step - loss: 0.8393
Epoch 4/10

  10/1149 […] - ETA: 0s - loss: 3.2941
 230/1149 [=====>…] - ETA: 0s - loss: 0.0814
 900/1149 [=======================>…] - ETA: 0s - loss: 0.8262
1149/1149 [==============================] - 0s 216us/step - loss: 0.5010
Epoch 4/10

  10/1149 […] - ETA: 0s - loss: 0.0694
 650/1148 [===============>…] - ETA: 0s - loss: 0.0950
 210/1149 [====>…] - ETA: 0s - loss: 0.4214
 190/1149 [===>…] - ETA: 0s - loss: 0.6064
 330/1149 [=======>…] - ETA: 0s - loss: 0.0835
1090/1149 [===========================>..] - ETA: 0s - loss: 0.8451
 170/1149 [===>…] - ETA: 0s - loss: 0.3810
 830/1148 [====================>…] - ETA: 0s - loss: 0.0935
1149/1149 [==============================] - 0s 243us/step - loss: 0.8460
Epoch 5/10

  10/1149 […] - ETA: 0s - loss: 0.7657
 295/1149 [======>…] - ETA: 0s - loss: 0.4027
 380/1149 [========>…] - ETA: 0s - loss: 0.6843
 425/1149 [=========>…] - ETA: 0s - loss: 0.0880
 330/1149 [=======>…] - ETA: 0s - loss: 0.3650
 990/1148 [=======================>…] - ETA: 0s - loss: 0.0910
 180/1149 [===>…] - ETA: 0s - loss: 0.9910
 375/1149 [========>…] - ETA: 0s - loss: 0.3522
 570/1149 [=============>…] - ETA: 0s - loss: 0.6300
 510/1149 [============>…] - ETA: 0s - loss: 0.0924
 500/1149 [===========>…] - ETA: 0s - loss: 0.3394
```

```
1148/1148 [==============================] - 0s 260us/step - loss: 0.0887
Epoch 10/10

  10/1148 […] - ETA: 0s - loss: 0.1095
 370/1149 [=======>…] - ETA: 0s - loss: 0.8881
 480/1149 [==========>…] - ETA: 0s - loss: 0.3111
 780/1149 [==================>…] - ETA: 0s - loss: 0.5715
 625/1149 [==============>…] - ETA: 0s - loss: 0.1103
 710/1149 [================>…] - ETA: 0s - loss: 0.3070
 230/1148 [=====>…] - ETA: 0s - loss: 0.0992
 610/1149 [=============>…] - ETA: 0s - loss: 0.8290
 595/1149 [=============>…] - ETA: 0s - loss: 0.2823
1040/1149 [==========================>…] - ETA: 0s - loss: 0.5650
 735/1149 [=================>…] - ETA: 0s - loss: 0.1117
 970/1149 [========================>…] - ETA: 0s - loss: 0.2715
 460/1148 [==========>…] - ETA: 0s - loss: 0.1004Epoch 1/10

  10/1149 […] - ETA: 40s - loss: 0.2065
1149/1149 [==============================] - 0s 251us/step - loss: 0.5526
Epoch 5/10

  10/1149 […] - ETA: 0s - loss: 0.2553
 830/1149 [====================>…] - ETA: 0s - loss: 0.8388
 710/1149 [=================>…] - ETA: 0s - loss: 0.2649
1149/1149 [==============================] - 0s 258us/step - loss: 0.2528
Epoch 5/10

  10/1149 […] - ETA: 0s - loss: 0.8051
 875/1149 [=====================>…] - ETA: 0s - loss: 0.1110
 690/1148 [=================>…] - ETA: 0s - loss: 0.0940
  70/1149 [>…] - ETA: 6s - loss: 1.1177
 240/1149 [=====>…] - ETA: 0s - loss: 0.4573
1050/1149 [==========================>…] - ETA: 0s - loss: 0.8229
 830/1149 [===================>…] - ETA: 0s - loss: 0.2575
1149/1149 [==============================] - 0s 245us/step - loss: 0.7924
Epoch 6/10

  10/1149 […] - ETA: 0s - loss: 0.0885
 240/1149 [=====>…] - ETA: 0s - loss: 0.2131
 995/1149 [=======================>…] - ETA: 0s - loss: 0.1102
 960/1148 [=======================>…] - ETA: 0s - loss: 0.0895
 170/1149 [===>…] - ETA: 2s - loss: 1.1267
 490/1149 [==========>…] - ETA: 0s - loss: 0.3664
 950/1149 [=======================>…] - ETA: 0s - loss: 0.2526
 240/1149 [=====>…] - ETA: 0s - loss: 0.8911
 450/1149 [==========>…] - ETA: 0s - loss: 0.1873
1148/1148 [==============================] - 0s 215us/step - loss: 0.0869
```

```
1115/1149 [============================>.] - ETA: 0s - loss: 0.1169
1149/1149 [==============================] - 1s 464us/step - loss: 0.1155


 270/1149 [======>…] - ETA: 1s - loss: 1.1330Epoch 17/20


   5/1149 […] - ETA: 0s - loss: 0.3870
 740/1149 [=================>…] - ETA: 0s - loss: 0.3602
1050/1149 [==========================>…] - ETA: 0s - loss: 0.2546
 500/1149 [===========>…] - ETA: 0s - loss: 0.8851
 670/1149 [===============>…] - ETA: 0s - loss: 0.1752Epoch 1/15


  10/1148 […] - ETA: 35s - loss: 0.3912
 460/1149 [===========>…] - ETA: 0s - loss: 1.1513
 145/1149 [==>…] - ETA: 0s - loss: 0.1552
1020/1149 [=========================>…] - ETA: 0s - loss: 0.3392
1149/1149 [==============================] - 1s 485us/step - loss: 0.2519
Epoch 16/20


   5/1149 […] - ETA: 0s - loss: 0.0332
 770/1149 [==================>…] - ETA: 0s - loss: 0.8044
 950/1149 [=======================>…] - ETA: 0s - loss: 0.1643
1149/1149 [==============================] - 0s 199us/step - loss: 0.3258
Epoch 6/10


  10/1149 […] - ETA: 0s - loss: 0.1360
  40/1148 [>…] - ETA: 10s - loss: 0.2566
 260/1149 [=====>…] - ETA: 0s - loss: 0.1725
 650/1149 [===============>…] - ETA: 0s - loss: 1.1115
 125/1149 [==>…] - ETA: 0s - loss: 0.2445
1149/1149 [==============================] - 0s 220us/step - loss: 0.1647
Epoch 6/10


  10/1149 […] - ETA: 0s - loss: 0.0592
 990/1149 [========================>…] - ETA: 0s - loss: 0.7782
 230/1149 [=====>…] - ETA: 0s - loss: 0.2621
  80/1148 [=>…] - ETA: 5s - loss: 0.3048
 375/1149 [========>…] - ETA: 0s - loss: 0.1695
 810/1149 [===================>…] - ETA: 0s - loss: 1.1390
 250/1149 [=====>…] - ETA: 0s - loss: 0.2284
1149/1149 [==============================] - 0s 211us/step - loss: 0.7412
Epoch 7/10


  10/1149 […] - ETA: 0s - loss: 0.5369
 270/1149 [======>…] - ETA: 0s - loss: 0.1362
 510/1149 [===========>…] - ETA: 0s - loss: 0.2225
 515/1149 [===========>…] - ETA: 0s - loss: 0.1457
 130/1148 [==>…] - ETA: 3s - loss: 0.3302
 940/1149 [=======================>…] - ETA: 0s - loss: 1.1365
```

```
 365/1149 [========>…] - ETA: 0s - loss: 0.2188
 250/1149 [=====>…] - ETA: 0s - loss: 0.6806
 520/1149 [===========>…] - ETA: 0s - loss: 0.1523
 770/1149 [=================>…] - ETA: 0s - loss: 0.2058
1149/1149 [============================] - 1s 675us/step - loss: 1.0817


 640/1149 [==============>…] - ETA: 0s - loss: 0.1301
 210/1148 [====>…] - ETA: 2s - loss: 0.3605Epoch 2/10

  10/1149 […] - ETA: 0s - loss: 0.3325
 480/1149 [==========>…] - ETA: 0s - loss: 0.2415
 470/1149 [==========>…] - ETA: 0s - loss: 0.6326
 780/1149 [==================>…] - ETA: 0s - loss: 0.1490
1020/1149 [========================>…] - ETA: 0s - loss: 0.1943
 760/1149 [=================>…] - ETA: 0s - loss: 0.1242
 260/1149 [=====>…] - ETA: 0s - loss: 0.6996
1149/1149 [============================] - 0s 205us/step - loss: 0.1973
Epoch 7/10


  10/1149 […] - ETA: 0s - loss: 0.0979
 300/1148 [======>…] - ETA: 1s - loss: 0.3529
 600/1149 [=============>…] - ETA: 0s - loss: 0.2317
 700/1149 [=================>…] - ETA: 0s - loss: 0.7086
1020/1149 [========================>…] - ETA: 0s - loss: 0.1499
1149/1149 [============================] - 0s 202us/step - loss: 0.1450
Epoch 7/10


  10/1149 […] - ETA: 0s - loss: 0.1067
 875/1149 [=====================>…] - ETA: 0s - loss: 0.1218
 560/1149 [============>…] - ETA: 0s - loss: 0.8299
 260/1149 [=====>…] - ETA: 0s - loss: 0.1070
 460/1148 [==========>…] - ETA: 0s - loss: 0.3529
 715/1149 [=================>…] - ETA: 0s - loss: 0.2234
 950/1149 [======================>…] - ETA: 0s - loss: 0.7139
 970/1149 [=======================>…] - ETA: 0s - loss: 0.1164
 230/1149 [=====>…] - ETA: 0s - loss: 0.1411
 800/1149 [==================>…] - ETA: 0s - loss: 0.9182
 670/1148 [===============>…] - ETA: 0s - loss: 0.3443
 450/1149 [=========>…] - ETA: 0s - loss: 0.1201
1149/1149 [============================] - 0s 222us/step - loss: 0.6794


 840/1149 [==================>…] - ETA: 0s - loss: 0.2259Epoch 8/10

  10/1149 […] - ETA: 0s - loss: 0.6912
1065/1149 [=========================>…] - ETA: 0s - loss: 0.1154
 450/1149 [=========>…] - ETA: 0s - loss: 0.1476
 990/1149 [=======================>…] - ETA: 0s - loss: 0.9418
 940/1148 [======================>…] - ETA: 0s - loss: 0.3214
```

```
 660/1149 [===============>…] - ETA: 0s - loss: 0.1403
 935/1149 [=====================>…] - ETA: 0s - loss: 0.2428
 230/1149 [=====>…] - ETA: 0s - loss: 0.7550
1149/1149 [==============================] - 1s 439us/step - loss: 0.1152


1148/1148 [==============================] - 1s 677us/step - loss: 0.3066
Epoch 18/20

   5/1149 […] - ETA: 0s - loss: 0.0781
1149/1149 [==============================] - 0s 217us/step - loss: 0.9574
Epoch 2/15


  10/1148 […] - ETA: 0s - loss: 0.1807Epoch 3/10


  10/1149 […] - ETA: 0s - loss: 0.9659
 670/1149 [===============>…] - ETA: 0s - loss: 0.1374
 840/1149 [===================>…] - ETA: 0s - loss: 0.1430
1035/1149 [=========================>…] - ETA: 0s - loss: 0.2463
 460/1149 [==========>…] - ETA: 0s - loss: 0.6955
 110/1149 [=>…] - ETA: 0s - loss: 0.0855
 180/1148 [===>…] - ETA: 0s - loss: 0.1710
 250/1149 [=====>…] - ETA: 0s - loss: 0.6932
 910/1149 [=====================>…] - ETA: 0s - loss: 0.1389Epoch 1/15


  10/1149 […] - ETA: 35s - loss: 0.3823
1090/1149 [==========================>..] - ETA: 0s - loss: 0.1439
 680/1149 [===============>…] - ETA: 0s - loss: 0.6641
1149/1149 [==============================] - 1s 446us/step - loss: 0.2393
Epoch 17/20


   5/1149 […] - ETA: 0s - loss: 0.0313
1149/1149 [==============================] - 0s 232us/step - loss: 0.1500
Epoch 8/10


  10/1149 […] - ETA: 0s - loss: 0.0557
 250/1149 [=====>…] - ETA: 0s - loss: 0.0781
 490/1149 [==========>…] - ETA: 0s - loss: 0.6721
 400/1148 [========>…] - ETA: 0s - loss: 0.1783
1140/1149 [==========================>.] - ETA: 0s - loss: 0.1380
1149/1149 [==============================] - 0s 227us/step - loss: 0.1382
Epoch 8/10


  10/1149 […] - ETA: 0s - loss: 0.1508
 130/1149 [==>…] - ETA: 2s - loss: 1.0000
 930/1149 [=====================>…] - ETA: 0s - loss: 0.6599
 110/1149 [=>…] - ETA: 0s - loss: 0.1471
 240/1149 [=====>…] - ETA: 0s - loss: 0.1552
 380/1149 [========>…] - ETA: 0s - loss: 0.1109
```

```
 590/1148 [==============>…] - ETA: 0s - loss: 0.1934
 750/1149 [=================>…] - ETA: 0s - loss: 0.7536
1149/1149 [==============================] - 0s 216us/step - loss: 0.6238


 250/1149 [=====>…] - ETA: 0s - loss: 0.1090Epoch 9/10


  10/1149 […] - ETA: 0s - loss: 0.0735
 240/1149 [=====>…] - ETA: 1s - loss: 1.1679
 230/1149 [=====>…] - ETA: 0s - loss: 0.3042
 520/1149 [============>…] - ETA: 0s - loss: 0.1435
 485/1149 [==========>…] - ETA: 0s - loss: 0.1100
 850/1148 [====================>…] - ETA: 0s - loss: 0.1838
 980/1149 [========================>…] - ETA: 0s - loss: 0.7224
 470/1149 [==========>…] - ETA: 0s - loss: 0.1231
 240/1149 [=====>…] - ETA: 0s - loss: 0.6388
 370/1149 [========>…] - ETA: 0s - loss: 1.2340
 340/1149 [=======>…] - ETA: 0s - loss: 0.2484
 760/1149 [=================>…] - ETA: 0s - loss: 0.1378
1149/1149 [==============================] - 0s 210us/step - loss: 0.6992
Epoch 4/10


  10/1149 […] - ETA: 0s - loss: 0.5227
 605/1149 [==============>…] - ETA: 0s - loss: 0.1302
1120/1148 [=============================>.] - ETA: 0s - loss: 0.1730
1148/1148 [==============================] - 0s 231us/step - loss: 0.1714


 710/1149 [=================>…] - ETA: 0s - loss: 0.1232Epoch 3/15


  10/1148 […] - ETA: 0s - loss: 0.1375
 480/1149 [==========>…] - ETA: 0s - loss: 0.5755
 450/1149 [=========>…] - ETA: 0s - loss: 1.1555
 445/1149 [==========>…] - ETA: 0s - loss: 0.2479
1000/1149 [========================>…] - ETA: 0s - loss: 0.1351
 210/1149 [====>…] - ETA: 0s - loss: 0.4305
 720/1149 [=================>…] - ETA: 0s - loss: 0.1265
1149/1149 [==============================] - 0s 205us/step - loss: 0.1376
Epoch 9/10


  10/1149 […] - ETA: 0s - loss: 0.0734
 200/1148 [====>…] - ETA: 0s - loss: 0.1158
 950/1149 [======================>…] - ETA: 0s - loss: 0.1216
 730/1149 [=================>…] - ETA: 0s - loss: 0.6205
 610/1149 [==============>…] - ETA: 0s - loss: 1.0520
 560/1149 [=============>…] - ETA: 0s - loss: 0.2634
 480/1149 [==========>…] - ETA: 0s - loss: 0.4404
 835/1149 [===================>…] - ETA: 0s - loss: 0.1238
1149/1149 [==============================] - 0s 221us/step - loss: 0.1323
```

```
 240/1149 [=====>…] - ETA: 0s - loss: 0.1596Epoch 9/10


  10/1149 […] - ETA: 0s - loss: 0.0718
 410/1148 [=========>…] - ETA: 0s - loss: 0.1092
 980/1149 [=======================>…] - ETA: 0s - loss: 0.5536
 720/1149 [=================>…] - ETA: 0s - loss: 1.0736
 670/1149 [===============>…] - ETA: 0s - loss: 0.2482
 780/1149 [==================>…] - ETA: 0s - loss: 0.4562
1149/1149 [=============================] - 0s 212us/step - loss: 0.5749


 965/1149 [=======================>…] - ETA: 0s - loss: 0.1175Epoch 10/10


  10/1149 […] - ETA: 0s - loss: 0.0943
 480/1149 [==========>…] - ETA: 0s - loss: 0.1397
 260/1149 [=====>…] - ETA: 0s - loss: 0.1079
 630/1148 [==============>…] - ETA: 0s - loss: 0.1222
 840/1149 [====================>…] - ETA: 0s - loss: 1.1835
 785/1149 [==================>…] - ETA: 0s - loss: 0.2483
 980/1149 [=======================>…] - ETA: 0s - loss: 0.4403
1090/1149 [===========================>..] - ETA: 0s - loss: 0.1146
 220/1149 [====>…] - ETA: 0s - loss: 0.6581
 890/1148 [=====================>…] - ETA: 0s - loss: 0.1206
 490/1149 [==========>…] - ETA: 0s - loss: 0.1329
 740/1149 [=================>…] - ETA: 0s - loss: 0.1416
 950/1149 [======================>…] - ETA: 0s - loss: 1.2046
 910/1149 [=====================>…] - ETA: 0s - loss: 0.2307
1149/1149 [=============================] - 0s 212us/step - loss: 0.4227
Epoch 5/10


  10/1149 […] - ETA: 0s - loss: 0.3260
1149/1149 [=============================] - 0s 428us/step - loss: 0.1145
Epoch 19/20


   5/1149 […] - ETA: 0s - loss: 0.1406
 460/1149 [==========>…] - ETA: 0s - loss: 0.6121
1148/1148 [=============================] - 0s 222us/step - loss: 0.1186


 740/1149 [=================>…] - ETA: 0s - loss: 0.1288
 950/1149 [======================>…] - ETA: 0s - loss: 0.1348Epoch 4/15


  10/1148 […] - ETA: 0s - loss: 0.1804
1120/1149 [==========================>.] - ETA: 0s - loss: 1.1724
1015/1149 [========================>…] - ETA: 0s - loss: 0.2290
1149/1149 [=============================] - 1s 689us/step - loss: 1.1666
Epoch 2/15


  10/1149 […] - ETA: 0s - loss: 0.5515
 230/1149 [=====>…] - ETA: 0s - loss: 0.3735
```

```
 115/1149 [==>…] - ETA: 0s - loss: 0.1828
 680/1149 [===============>…] - ETA: 0s - loss: 0.5573
1149/1149 [==============================] - 0s 221us/step - loss: 0.1322
Epoch 10/10

  10/1149 […] - ETA: 0s - loss: 0.4437
 930/1149 [=====================>…] - ETA: 0s - loss: 0.1267
 210/1148 [====>…] - ETA: 0s - loss: 0.0851
1115/1149 [===========================>.] - ETA: 0s - loss: 0.2284
 260/1149 [=====>…] - ETA: 0s - loss: 1.1094
 440/1149 [=========>…] - ETA: 0s - loss: 0.3251
 225/1149 [====>…] - ETA: 0s - loss: 0.1448
1149/1149 [==============================] - 1s 464us/step - loss: 0.2271
Epoch 18/20

   5/1149 […] - ETA: 0s - loss: 0.5407
 890/1149 [=====================>…] - ETA: 0s - loss: 0.5275
 220/1149 [====>…] - ETA: 0s - loss: 0.1387
 400/1148 [========>…] - ETA: 0s - loss: 0.1047
1120/1149 [===========================>.] - ETA: 0s - loss: 0.1307
1149/1149 [==============================] - 0s 232us/step - loss: 0.1295
Epoch 10/10

  10/1149 […] - ETA: 0s - loss: 0.0837
 510/1149 [===========>…] - ETA: 0s - loss: 1.0641
 650/1149 [==============>…] - ETA: 0s - loss: 0.3031
 335/1149 [=======>…] - ETA: 0s - loss: 0.1270
 100/1149 [=>…] - ETA: 0s - loss: 0.2574
1100/1149 [==========================>..] - ETA: 0s - loss: 0.5385
 420/1149 [=========>…] - ETA: 0s - loss: 0.1241
 620/1148 [==============>…] - ETA: 0s - loss: 0.1041
1149/1149 [==============================] - 0s 239us/step - loss: 0.5347

 250/1149 [=====>…] - ETA: 0s - loss: 0.1421
 730/1149 [=================>…] - ETA: 0s - loss: 1.0443
 930/1149 [=====================>…] - ETA: 0s - loss: 0.2754
 440/1149 [=========>…] - ETA: 0s - loss: 0.1257
 220/1149 [====>…] - ETA: 0s - loss: 0.2078
 600/1149 [=============>…] - ETA: 0s - loss: 0.1321
 840/1148 [===================>…] - ETA: 0s - loss: 0.1002
 500/1149 [===========>…] - ETA: 0s - loss: 0.1334
1149/1149 [==============================] - 0s 222us/step - loss: 0.2522

 990/1149 [======================>…] - ETA: 0s - loss: 0.9762Epoch 6/10

  10/1149 […] - ETA: 0s - loss: 0.1762
 545/1149 [============>…] - ETA: 0s - loss: 0.1146
 340/1149 [=======>…] - ETA: 0s - loss: 0.1833
```

```
 820/1149 [===================>…] - ETA: 0s - loss: 0.1249
1100/1148 [===========================>..] - ETA: 0s - loss: 0.0982
1149/1149 [=============================] - 0s 213us/step - loss: 0.9567
Epoch 3/15

  10/1149 […] - ETA: 0s - loss: 0.9387
 740/1149 [=================>…] - ETA: 0s - loss: 0.1305
1148/1148 [=============================] - 0s 238us/step - loss: 0.0988
Epoch 5/15

  10/1148 […] - ETA: 0s - loss: 0.0864
 230/1149 [=====>…] - ETA: 0s - loss: 0.1710
 675/1149 [================>…] - ETA: 0s - loss: 0.1150
 455/1149 [==========>…] - ETA: 0s - loss: 0.1643
1090/1149 [==========================>..] - ETA: 0s - loss: 0.1253
1149/1149 [=============================] - 0s 234us/step - loss: 0.1296

 100/1149 [=>…] - ETA: 0s - loss: 0.8146
 950/1149 [=====================>…] - ETA: 0s - loss: 0.1337
 440/1149 [==========>…] - ETA: 0s - loss: 0.1907
 230/1148 [=====>…] - ETA: 0s - loss: 0.0876
 810/1149 [===================>…] - ETA: 0s - loss: 0.1121
 565/1149 [=============>…] - ETA: 0s - loss: 0.1701
1149/1149 [=============================] - 0s 217us/step - loss: 0.1277

 290/1149 [======>…] - ETA: 0s - loss: 0.8831
 690/1149 [=================>…] - ETA: 0s - loss: 0.1740
 480/1148 [==========>…] - ETA: 0s - loss: 0.0922
 945/1149 [======================>…] - ETA: 0s - loss: 0.1159
 700/1149 [=================>…] - ETA: 0s - loss: 0.2170
 610/1149 [=============>…] - ETA: 0s - loss: 0.7273
 980/1149 [======================>…] - ETA: 0s - loss: 0.1775
 760/1148 [==================>…] - ETA: 0s - loss: 0.0919
1085/1149 [===========================>..] - ETA: 0s - loss: 0.1144
 845/1149 [=====================>…] - ETA: 0s - loss: 0.2148
1149/1149 [=============================] - 0s 208us/step - loss: 0.1714
Epoch 7/10

  10/1149 […] - ETA: 0s - loss: 0.1277
1149/1149 [=============================] - 0s 429us/step - loss: 0.1136
Epoch 20/20

   5/1149 […] - ETA: 0s - loss: 0.1133
 900/1149 [=====================>…] - ETA: 0s - loss: 0.6121
 990/1148 [======================>…] - ETA: 0s - loss: 0.0915
 975/1149 [======================>…] - ETA: 0s - loss: 0.2078
 240/1149 [=====>…] - ETA: 0s - loss: 0.1326
 110/1149 [=>…] - ETA: 0s - loss: 0.1163
```

```
1120/1149 [============================>.] - ETA: 0s - loss: 0.5551
1148/1148 [==============================] - 0s 216us/step - loss: 0.0899
Epoch 6/15

  10/1148 [...] - ETA: 0s - loss: 0.0669
1149/1149 [==============================] - 0s 231us/step - loss: 0.5453
Epoch 4/15

  10/1149 [...] - ETA: 0s - loss: 0.2759
1080/1149 [===========================>..] - ETA: 0s - loss: 0.2185
 460/1149 [==========>...] - ETA: 0s - loss: 0.1300
 200/1149 [====>...] - ETA: 0s - loss: 0.1503
1149/1149 [==============================] - 0s 427us/step - loss: 0.2159


 210/1148 [====>...] - ETA: 0s - loss: 0.0781Epoch 19/20

   5/1149 [...] - ETA: 0s - loss: 0.2945
 200/1149 [====>...] - ETA: 0s - loss: 0.3084
 650/1149 [===============>...] - ETA: 0s - loss: 0.1507
 290/1149 [======>...] - ETA: 0s - loss: 0.1322
 450/1148 [=========>...] - ETA: 0s - loss: 0.0815
 105/1149 [=>...] - ETA: 0s - loss: 0.4141
 470/1149 [==========>...] - ETA: 0s - loss: 0.2584
 840/1149 [===================>...] - ETA: 0s - loss: 0.1457
 410/1149 [========>...] - ETA: 0s - loss: 0.1194
 620/1148 [===============>...] - ETA: 0s - loss: 0.0802
 215/1149 [====>...] - ETA: 0s - loss: 0.2918
 680/1149 [===============>...] - ETA: 0s - loss: 0.2275
1030/1149 [=========================>...] - ETA: 0s - loss: 0.1437
 545/1149 [============>...] - ETA: 0s - loss: 0.1143
 820/1148 [===================>...] - ETA: 0s - loss: 0.0905
 305/1149 [======>...] - ETA: 0s - loss: 0.2577
 890/1149 [=====================>...] - ETA: 0s - loss: 0.2093
1149/1149 [==============================] - 0s 247us/step - loss: 0.1469
Epoch 8/10

  10/1149 [...] - ETA: 0s - loss: 0.3023
 660/1149 [================>...] - ETA: 0s - loss: 0.1117
1020/1148 [========================>...] - ETA: 0s - loss: 0.0884
 430/1149 [=========>...] - ETA: 0s - loss: 0.2314
1120/1149 [============================>.] - ETA: 0s - loss: 0.2058
1149/1149 [==============================] - 0s 230us/step - loss: 0.2040
Epoch 5/15

  10/1149 [...] - ETA: 0s - loss: 0.1612Epoch 1/15

  10/1149 [...] - ETA: 30s - loss: 0.4605
 220/1149 [====>...] - ETA: 0s - loss: 0.1563
```

```
1148/1148 [==============================] - 0s 250us/step - loss: 0.0854
Epoch 7/15

  10/1148 […] - ETA: 0s - loss: 0.1324
 770/1149 [==================>…] - ETA: 0s - loss: 0.1044
 550/1149 [============>…] - ETA: 0s - loss: 0.2159Epoch 1/15

  10/1149 […] - ETA: 30s - loss: 0.4641
 270/1149 [======>…] - ETA: 0s - loss: 0.1457
  60/1149 [>…] - ETA: 5s - loss: 0.5784
 450/1149 [==========>…] - ETA: 0s - loss: 0.1434
 270/1148 [======>…] - ETA: 0s - loss: 0.0854
 885/1149 [=====================>…] - ETA: 0s - loss: 0.1048
 685/1149 [===============>…] - ETA: 0s - loss: 0.2049
 570/1149 [============>…] - ETA: 0s - loss: 0.1268
  70/1149 [>…] - ETA: 4s - loss: 1.6223
 230/1149 [=====>…] - ETA: 1s - loss: 0.6844
 670/1149 [===============>…] - ETA: 0s - loss: 0.1487
 520/1148 [============>…] - ETA: 0s - loss: 0.0819
1020/1149 [========================>…] - ETA: 0s - loss: 0.1106
 800/1149 [==================>…] - ETA: 0s - loss: 0.2213
 840/1149 [===================>…] - ETA: 0s - loss: 0.1379
 130/1149 [==>…] - ETA: 2s - loss: 1.1824
 410/1149 [========>…] - ETA: 0s - loss: 0.8458
 930/1149 [======================>…] - ETA: 0s - loss: 0.1443
 750/1148 [=================>…] - ETA: 0s - loss: 0.0850Epoch 1/15

  10/1149 […] - ETA: 32s - loss: 0.4617
1145/1149 [============================>.] - ETA: 0s - loss: 0.1138
1149/1149 [==============================] - 1s 450us/step - loss: 0.1135

 920/1149 [======================>…] - ETA: 0s - loss: 0.2185
1090/1149 [===========================>..] - ETA: 0s - loss: 0.1424
1149/1149 [==============================] - 0s 220us/step - loss: 0.1399

 680/1149 [===============>…] - ETA: 0s - loss: 0.9970Epoch 9/10

  10/1149 […] - ETA: 0s - loss: 0.0940
 260/1149 [=====>…] - ETA: 1s - loss: 1.0360
1149/1149 [==============================] - 0s 190us/step - loss: 0.1409
Epoch 6/15

  10/1149 […] - ETA: 0s - loss: 0.0810
1020/1148 [========================>…] - ETA: 0s - loss: 0.0843
  40/1149 [>…] - ETA: 9s - loss: 0.6969
1040/1149 [=========================>…] - ETA: 0s - loss: 0.2056
1148/1148 [==============================] - 0s 201us/step - loss: 0.0833
Epoch 8/15
```

```
  10/1148 […] – ETA: 0s – loss: 0.0516
 950/1149 [======================>…] – ETA: 0s – loss: 1.0939
 280/1149 [======>…] – ETA: 0s – loss: 0.1349
 420/1149 [=========>…] – ETA: 0s – loss: 1.1796
 250/1149 [=====>…] – ETA: 0s – loss: 0.1465
1149/1149 [==============================] – 0s 432us/step – loss: 0.2066
Epoch 20/20

   5/1149 […] – ETA: 0s – loss: 0.1544
1149/1149 [==============================] – 1s 492us/step – loss: 1.1404

 270/1148 [======>…] – ETA: 0s – loss: 0.0789Epoch 2/15

  10/1149 […] – ETA: 0s – loss: 0.3324
 520/1149 [============>…] – ETA: 0s – loss: 0.1643
 570/1149 [============>…] – ETA: 0s – loss: 1.1092
  70/1149 [>…] – ETA: 6s – loss: 1.0219
 500/1149 [===========>…] – ETA: 0s – loss: 0.1419
 140/1149 [==>…] – ETA: 0s – loss: 0.2477
 220/1149 [====>…] – ETA: 0s – loss: 0.8518
 500/1148 [===========>…] – ETA: 0s – loss: 0.0852
 770/1149 [==================>…] – ETA: 0s – loss: 0.1450
 800/1149 [==================>…] – ETA: 0s – loss: 1.1542
 760/1149 [==================>…] – ETA: 0s – loss: 0.1332
 260/1149 [=====>…] – ETA: 0s – loss: 0.2699
 110/1149 [=>…] – ETA: 4s – loss: 0.9655
 720/1148 [=================>…] – ETA: 0s – loss: 0.0875
 390/1149 [=========>…] – ETA: 0s – loss: 0.8298
1010/1149 [=========================>…] – ETA: 0s – loss: 0.1380
1100/1149 [===========================>..] – ETA: 0s – loss: 1.1203
1050/1149 [=========================>…] – ETA: 0s – loss: 0.1322
1149/1149 [==============================] – 1s 561us/step – loss: 1.1063
Epoch 2/15

  10/1149 […] – ETA: 0s – loss: 0.2112
 390/1149 [=========>…] – ETA: 0s – loss: 0.2371
1149/1149 [==============================] – 0s 203us/step – loss: 0.1354
Epoch 10/10

  10/1149 […] – ETA: 0s – loss: 0.0278
1149/1149 [==============================] – 0s 195us/step – loss: 0.1307
Epoch 7/15

  10/1149 […] – ETA: 0s – loss: 0.0417
 170/1149 [===>…] – ETA: 3s – loss: 0.8616
 940/1148 [======================>…] – ETA: 0s – loss: 0.0821
 510/1149 [===========>…] – ETA: 0s – loss: 0.9748
```

```
 505/1149 [============>…] – ETA: 0s – loss: 0.2581
1148/1148 [==============================] – 0s 212us/step – loss: 0.0815
Epoch 9/15

  10/1148 […] – ETA: 0s – loss: 0.0766
 240/1149 [=====>…] – ETA: 0s – loss: 0.1166
 270/1149 [======>…] – ETA: 0s – loss: 0.1019
 180/1149 [===>…] – ETA: 0s – loss: 0.6805
 390/1149 [========>…] – ETA: 1s – loss: 1.1460
 700/1149 [================>…] – ETA: 0s – loss: 0.9848
 635/1149 [==============>…] – ETA: 0s – loss: 0.2295
 280/1148 [======>…] – ETA: 0s – loss: 0.0769
 480/1149 [==========>…] – ETA: 0s – loss: 0.1115
 510/1149 [===========>…] – ETA: 0s – loss: 0.1035
 230/1149 [=====>…] – ETA: 0s – loss: 0.8108
 590/1149 [==============>…] – ETA: 0s – loss: 1.1796
 940/1149 [======================>…] – ETA: 0s – loss: 0.9339
 750/1149 [==================>…] – ETA: 0s – loss: 0.2108
 730/1149 [==================>…] – ETA: 0s – loss: 0.1308
 530/1148 [===========>…] – ETA: 0s – loss: 0.0784
 750/1149 [==================>…] – ETA: 0s – loss: 0.1117
 380/1149 [========>…] – ETA: 0s – loss: 0.9031
 800/1149 [===================>…] – ETA: 0s – loss: 1.0837
1120/1149 [============================>.] – ETA: 0s – loss: 0.9187
1149/1149 [==============================] – 0s 280us/step – loss: 0.9134
Epoch 3/15

  10/1149 […] – ETA: 0s – loss: 0.9067
 880/1149 [====================>…] – ETA: 0s – loss: 0.2035
 990/1149 [========================>…] – ETA: 0s – loss: 0.1330
 780/1148 [===================>…] – ETA: 0s – loss: 0.0780
 990/1149 [========================>…] – ETA: 0s – loss: 0.1262
 660/1149 [===============>…] – ETA: 0s – loss: 0.9235
 920/1149 [=======================>…] – ETA: 0s – loss: 1.0647
 150/1149 [==>…] – ETA: 0s – loss: 0.6135
1149/1149 [==============================] – 0s 205us/step – loss: 0.1339


1149/1149 [==============================] – 0s 210us/step – loss: 0.1239
Epoch 8/15

  10/1149 […] – ETA: 0s – loss: 0.1491
 995/1149 [=======================>…] – ETA: 0s – loss: 0.2035
1040/1148 [=========================>…] – ETA: 0s – loss: 0.0816
 960/1149 [=======================>…] – ETA: 0s – loss: 0.9451
1090/1149 [===========================>..] – ETA: 0s – loss: 1.0670
1148/1148 [==============================] – 0s 199us/step – loss: 0.0806


1149/1149 [==============================] – 1s 727us/step – loss: 1.0825
```

```
Epoch 10/15

  10/1148 […] - ETA: 0s - loss: 0.0741Epoch 2/15

  10/1149 […] - ETA: 0s - loss: 1.6126
 330/1149 [=======>…] - ETA: 0s - loss: 0.5361
 250/1149 [=====>…] - ETA: 0s - loss: 0.1601
1149/1149 [==============================] - 0s 273us/step - loss: 0.9013

1105/1149 [==========================>..] - ETA: 0s - loss: 0.2019Epoch 3/15

  10/1149 […] - ETA: 0s - loss: 0.9588
1149/1149 [==============================] - 0s 422us/step - loss: 0.1994

 220/1148 [====>…] - ETA: 0s - loss: 0.0866
 270/1149 [======>…] - ETA: 0s - loss: 0.9312
 560/1149 [=============>…] - ETA: 0s - loss: 0.5645
 450/1149 [==========>…] - ETA: 0s - loss: 0.1322
 170/1149 [===>…] - ETA: 0s - loss: 0.7169
 450/1148 [=========>…] - ETA: 0s - loss: 0.0817
 490/1149 [==========>…] - ETA: 0s - loss: 1.0051
 770/1149 [===================>…] - ETA: 0s - loss: 0.5844
 670/1149 [================>…] - ETA: 0s - loss: 0.1224
 430/1149 [=========>…] - ETA: 0s - loss: 0.7292
 700/1148 [=================>…] - ETA: 0s - loss: 0.0796
 750/1149 [==================>…] - ETA: 0s - loss: 0.9004
1010/1149 [========================>…] - ETA: 0s - loss: 0.5471
 940/1149 [=======================>…] - ETA: 0s - loss: 0.1176
 670/1149 [================>…] - ETA: 0s - loss: 0.6849
1149/1149 [==============================] - 0s 247us/step - loss: 0.5171
Epoch 4/15

  10/1149 […] - ETA: 0s - loss: 0.1075
 960/1148 [=======================>…] - ETA: 0s - loss: 0.0750
1010/1149 [========================>…] - ETA: 0s - loss: 0.8730
1149/1149 [==============================] - 0s 213us/step - loss: 0.1208
Epoch 9/15

  10/1149 […] - ETA: 0s - loss: 0.0785
 950/1149 [======================>…] - ETA: 0s - loss: 0.6120
1149/1149 [==============================] - 0s 204us/step - loss: 0.9159

 280/1149 [======>…] - ETA: 0s - loss: 0.2549Epoch 3/15

  10/1149 […] - ETA: 0s - loss: 0.6209
1148/1148 [==============================] - 0s 216us/step - loss: 0.0800
Epoch 11/15
```

```
  10/1148 [...] - ETA: 0s - loss: 0.1346
 260/1149 [=====>...] - ETA: 0s - loss: 0.1026
1149/1149 [==============================] - 0s 219us/step - loss: 0.5621
Epoch 4/15

  10/1149 [...] - ETA: 0s - loss: 0.4756
 500/1149 [============>...] - ETA: 0s - loss: 0.2478
 240/1149 [=====>...] - ETA: 0s - loss: 0.6785
 200/1148 [====>...] - ETA: 0s - loss: 0.0728Epoch 1/20

  10/1148 [...] - ETA: 1:03 - loss: 0.3233
 500/1149 [============>...] - ETA: 0s - loss: 0.1025
 210/1149 [====>...] - ETA: 0s - loss: 0.3515
 720/1149 [=================>...] - ETA: 0s - loss: 0.2485
 470/1149 [===========>...] - ETA: 0s - loss: 0.8125
 400/1148 [=========>...] - ETA: 0s - loss: 0.0772
 710/1149 [=================>...] - ETA: 0s - loss: 0.1121
 150/1148 [==>...] - ETA: 4s - loss: 0.3301
 420/1149 [=========>...] - ETA: 0s - loss: 0.3597
 950/1149 [=======================>...] - ETA: 0s - loss: 0.2341
 690/1149 [=================>...] - ETA: 0s - loss: 0.7637
 620/1148 [===============>...] - ETA: 0s - loss: 0.0809
 930/1149 [=======================>...] - ETA: 0s - loss: 0.1223
1149/1149 [==============================] - 0s 214us/step - loss: 0.2244

 680/1149 [=================>...] - ETA: 0s - loss: 0.3354
 230/1148 [=====>...] - ETA: 2s - loss: 0.3008Epoch 5/15

  10/1149 [...] - ETA: 0s - loss: 0.0852
 880/1149 [=====================>...] - ETA: 0s - loss: 0.6993
 850/1148 [=====================>...] - ETA: 0s - loss: 0.0818
1140/1149 [============================>.] - ETA: 0s - loss: 0.1185
1149/1149 [==============================] - 0s 225us/step - loss: 0.1182
Epoch 10/15

  10/1149 [...] - ETA: 0s - loss: 0.1857
 930/1149 [=======================>...] - ETA: 0s - loss: 0.3156
 240/1149 [=====>...] - ETA: 0s - loss: 0.1490
 350/1148 [========>...] - ETA: 1s - loss: 0.3123
1130/1149 [============================>.] - ETA: 0s - loss: 0.6263
1149/1149 [==============================] - 0s 230us/step - loss: 0.6187
Epoch 4/15

  10/1149 [...] - ETA: 0s - loss: 2.3299
1110/1148 [============================>.] - ETA: 0s - loss: 0.0781
1148/1148 [==============================] - 0s 236us/step - loss: 0.0796
Epoch 12/15
```

```
  10/1148 […] – ETA: 0s – loss: 0.0717
 270/1149 [======>…] – ETA: 0s – loss: 0.1353
1130/1149 [============================>.] – ETA: 0s – loss: 0.2923
 460/1149 [==========>…] – ETA: 0s – loss: 0.1529
 460/1148 [==========>…] – ETA: 1s – loss: 0.3234
1149/1149 [=============================] – 0s 230us/step – loss: 0.2926
Epoch 5/15

  10/1149 […] – ETA: 0s – loss: 0.1003
 300/1149 [======>…] – ETA: 0s – loss: 0.4066
 550/1149 [============>…] – ETA: 0s – loss: 0.1190
 240/1148 [=====>…] – ETA: 0s – loss: 0.0710
 700/1149 [=================>…] – ETA: 0s – loss: 0.1563
 210/1149 [====>…] – ETA: 0s – loss: 0.1790
 560/1148 [============>…] – ETA: 0s – loss: 0.3288
 550/1149 [============>…] – ETA: 0s – loss: 0.3794
 770/1149 [==================>…] – ETA: 0s – loss: 0.1142
 470/1148 [==========>…] – ETA: 0s – loss: 0.0780
 860/1149 [====================>…] – ETA: 0s – loss: 0.1537
 420/1149 [=========>…] – ETA: 0s – loss: 0.1786
 850/1148 [====================>…] – ETA: 0s – loss: 0.3331
 700/1149 [=================>…] – ETA: 0s – loss: 0.3490
 940/1149 [======================>…] – ETA: 0s – loss: 0.1221
 630/1148 [==============>…] – ETA: 0s – loss: 0.0766
1148/1148 [=============================] – 1s 810us/step – loss: 0.3263
Epoch 2/20

  10/1148 […] – ETA: 0s – loss: 0.2155
1050/1149 [==========================>…] – ETA: 0s – loss: 0.1711
 700/1149 [=================>…] – ETA: 0s – loss: 0.1633
 890/1149 [=====================>…] – ETA: 0s – loss: 0.3420
1149/1149 [=============================] – 0s 246us/step – loss: 0.1660
Epoch 6/15

  10/1149 […] – ETA: 0s – loss: 0.1236
1149/1149 [=============================] – 0s 227us/step – loss: 0.1164

 830/1148 [====================>…] – ETA: 0s – loss: 0.0815Epoch 11/15

  10/1149 […] – ETA: 0s – loss: 0.0347
 340/1148 [=======>…] – ETA: 0s – loss: 0.2232
1000/1149 [========================>…] – ETA: 0s – loss: 0.1741Epoch 1/20

  10/1149 […] – ETA: 36s – loss: 1.7560
1060/1149 [==========================>…] – ETA: 0s – loss: 0.3243Epoch 1/20

  10/1149 […] – ETA: 45s – loss: 0.5007
 230/1149 [=====>…] – ETA: 0s – loss: 0.1903
```

```
1149/1149 [==============================] - 0s 241us/step - loss: 0.3283
Epoch 5/15

  10/1149 […] - ETA: 0s - loss: 0.1202
1060/1148 [==========================>…] - ETA: 0s - loss: 0.0792
 260/1149 [=====>…] - ETA: 0s - loss: 0.1243
1149/1149 [==============================] - 0s 217us/step - loss: 0.1731

 530/1148 [===========>…] - ETA: 0s - loss: 0.2340Epoch 6/15

  10/1149 […] - ETA: 0s - loss: 0.1293
  60/1149 [>…] - ETA: 6s - loss: 1.3218
1148/1148 [==============================] - 0s 246us/step - loss: 0.0791
Epoch 13/15

  10/1148 […] - ETA: 0s - loss: 0.0875
 140/1149 [==>…] - ETA: 3s - loss: 1.0787
 500/1149 [===========>…] - ETA: 0s - loss: 0.1593
 270/1149 [======>…] - ETA: 0s - loss: 0.2241
 490/1149 [==========>…] - ETA: 0s - loss: 0.1227
 770/1148 [==================>…] - ETA: 0s - loss: 0.2297
 230/1149 [=====>…] - ETA: 0s - loss: 0.1407
 130/1149 [==>…] - ETA: 3s - loss: 1.2740
 260/1148 [=====>…] - ETA: 0s - loss: 0.0773
 240/1149 [=====>…] - ETA: 1s - loss: 1.0612
 760/1149 [==================>…] - ETA: 0s - loss: 0.1677
 530/1149 [===========>…] - ETA: 0s - loss: 0.2156
 730/1149 [==================>…] - ETA: 0s - loss: 0.1289
 470/1149 [==========>…] - ETA: 0s - loss: 0.1644
1010/1148 [=========================>…] - ETA: 0s - loss: 0.2179
 510/1148 [===========>…] - ETA: 0s - loss: 0.0882
 190/1149 [===>…] - ETA: 2s - loss: 1.4081
 950/1149 [======================>…] - ETA: 0s - loss: 0.1597
 340/1149 [=======>…] - ETA: 1s - loss: 0.9908
1148/1148 [==============================] - 0s 210us/step - loss: 0.2123
Epoch 3/20

  10/1148 […] - ETA: 0s - loss: 0.0842
 810/1149 [===================>…] - ETA: 0s - loss: 0.2051
 960/1149 [=======================>…] - ETA: 0s - loss: 0.1190
 740/1149 [=================>…] - ETA: 0s - loss: 0.1525
 760/1148 [==================>…] - ETA: 0s - loss: 0.0839
 270/1149 [=====>…] - ETA: 1s - loss: 1.4893
1149/1149 [==============================] - 0s 226us/step - loss: 0.1529
Epoch 7/15

  10/1149 […] - ETA: 0s - loss: 0.1755
 470/1149 [==========>…] - ETA: 0s - loss: 1.0960
```

```
 240/1148 [=====>…] - ETA: 0s - loss: 0.1782
1070/1149 [==========================>…] - ETA: 0s - loss: 0.1948
1149/1149 [==============================] - 0s 221us/step - loss: 0.1139
Epoch 12/15

  10/1149 […] - ETA: 0s - loss: 0.1184
1010/1149 [=========================>…] - ETA: 0s - loss: 0.1512
1149/1149 [==============================] - 0s 194us/step - loss: 0.1937
Epoch 6/15

  10/1149 […] - ETA: 0s - loss: 0.2765
1020/1148 [=========================>…] - ETA: 0s - loss: 0.0792
 340/1149 [=======>…] - ETA: 1s - loss: 1.4327
1149/1149 [==============================] - 0s 204us/step - loss: 0.1458

 220/1149 [====>…] - ETA: 0s - loss: 0.1589Epoch 7/15

  10/1149 […] - ETA: 0s - loss: 0.1882
 560/1149 [=============>…] - ETA: 0s - loss: 1.1983
 460/1148 [==========>…] - ETA: 0s - loss: 0.1706
 260/1149 [=====>…] - ETA: 0s - loss: 0.0752
1148/1148 [==============================] - 0s 205us/step - loss: 0.0791
Epoch 14/15

  10/1148 […] - ETA: 0s - loss: 0.1406
 230/1149 [=====>…] - ETA: 0s - loss: 0.1581
 400/1149 [=========>…] - ETA: 1s - loss: 1.3886
 500/1149 [============>…] - ETA: 0s - loss: 0.1481
 240/1149 [=====>…] - ETA: 0s - loss: 0.1143
 640/1149 [===============>…] - ETA: 0s - loss: 1.1871
 720/1148 [=================>…] - ETA: 0s - loss: 0.1665
 540/1149 [=============>…] - ETA: 0s - loss: 0.0810
 220/1148 [====>…] - ETA: 0s - loss: 0.0699
 440/1149 [=========>…] - ETA: 0s - loss: 0.1917
 530/1149 [============>…] - ETA: 0s - loss: 1.3054
 730/1149 [=================>…] - ETA: 0s - loss: 0.1501
 480/1149 [==========>…] - ETA: 0s - loss: 0.1067
 810/1149 [===================>…] - ETA: 0s - loss: 1.2224
 940/1148 [======================>…] - ETA: 0s - loss: 0.1618
 740/1149 [=================>…] - ETA: 0s - loss: 0.0897
 430/1148 [=========>…] - ETA: 0s - loss: 0.0749
 680/1149 [===============>…] - ETA: 0s - loss: 0.1667
 770/1149 [==================>…] - ETA: 0s - loss: 1.2535
 880/1149 [=====================>…] - ETA: 0s - loss: 0.1469
 650/1149 [==============>…] - ETA: 0s - loss: 0.1181
1040/1149 [==========================>…] - ETA: 0s - loss: 1.1667
1148/1148 [==============================] - 0s 227us/step - loss: 0.1544
Epoch 4/20
```

```
  10/1148 […] - ETA: 0s - loss: 0.0240
 590/1148 [=============>…] - ETA: 0s - loss: 0.0764
 910/1149 [=====================>…] - ETA: 0s - loss: 0.1041
 950/1149 [======================>…] - ETA: 0s - loss: 0.1638
1149/1149 [=============================] - 1s 740us/step - loss: 1.1541
Epoch 2/20

  10/1149 […] - ETA: 0s - loss: 1.3255
1000/1149 [========================>…] - ETA: 0s - loss: 1.1666
1050/1149 [=========================>…] - ETA: 0s - loss: 0.1490
 850/1149 [====================>…] - ETA: 0s - loss: 0.1292
1060/1149 [=========================>…] - ETA: 0s - loss: 0.1051
 210/1148 [====>…] - ETA: 0s - loss: 0.1393
 780/1148 [==================>…] - ETA: 0s - loss: 0.0773
1149/1149 [=============================] - 0s 216us/step - loss: 0.1547


1149/1149 [=============================] - 0s 241us/step - loss: 0.1489
Epoch 7/15

  10/1149 […] - ETA: 0s - loss: 0.1361Epoch 8/15

  10/1149 […] - ETA: 0s - loss: 0.0807
1149/1149 [=============================] - 1s 719us/step - loss: 1.1632
Epoch 2/20

  10/1149 […] - ETA: 0s - loss: 0.6577
1149/1149 [=============================] - 0s 242us/step - loss: 0.1114


 210/1149 [====>…] - ETA: 0s - loss: 0.7827Epoch 13/15

  10/1149 […] - ETA: 0s - loss: 0.1508
1070/1149 [=========================>…] - ETA: 0s - loss: 0.1314
 970/1148 [=======================>…] - ETA: 0s - loss: 0.0789
 450/1148 [=========>…] - ETA: 0s - loss: 0.1256
1149/1149 [=============================] - 0s 241us/step - loss: 0.1368
Epoch 8/15

  10/1149 […] - ETA: 0s - loss: 0.0744
 250/1149 [=====>…] - ETA: 0s - loss: 0.1968
 220/1149 [====>…] - ETA: 0s - loss: 0.1348
 210/1149 [====>…] - ETA: 0s - loss: 1.1300
 210/1149 [====>…] - ETA: 0s - loss: 0.1012
 420/1149 [========>…] - ETA: 0s - loss: 0.8500
1148/1148 [=============================] - 0s 263us/step - loss: 0.0790
Epoch 15/15

  10/1148 […] - ETA: 0s - loss: 0.0468
```

```
 680/1148 [================>…] – ETA: 0s – loss: 0.1312
 240/1149 [=====>…] – ETA: 0s – loss: 0.1575
 490/1149 [==========>…] – ETA: 0s – loss: 0.1707
 380/1149 [========>…] – ETA: 0s – loss: 0.1468
 410/1149 [=========>…] – ETA: 0s – loss: 1.2333
 630/1149 [==============>…] – ETA: 0s – loss: 0.9333
 440/1149 [=========>…] – ETA: 0s – loss: 0.1237
 920/1148 [=====================>…] – ETA: 0s – loss: 0.1295
 250/1148 [=====>…] – ETA: 0s – loss: 0.0850
 730/1149 [=================>…] – ETA: 0s – loss: 0.1595
 500/1149 [===========>…] – ETA: 0s – loss: 0.1343
 580/1149 [=============>…] – ETA: 0s – loss: 0.1509
 610/1149 [=============>…] – ETA: 0s – loss: 1.1079
 870/1149 [====================>…] – ETA: 0s – loss: 0.9566
 630/1149 [==============>…] – ETA: 0s – loss: 0.1258
1148/1148 [============================] – 0s 224us/step – loss: 0.1259
Epoch 5/20

  10/1148 […] – ETA: 0s – loss: 0.1173
 460/1148 [==========>…] – ETA: 0s – loss: 0.0796
 730/1149 [=================>…] – ETA: 0s – loss: 0.1253
 980/1149 [=======================>…] – ETA: 0s – loss: 0.1485
 790/1149 [==================>…] – ETA: 0s – loss: 0.1587
 800/1149 [==================>…] – ETA: 0s – loss: 1.1264
1110/1149 [==========================>..] – ETA: 0s – loss: 0.9013
 830/1149 [===================>…] – ETA: 0s – loss: 0.1204
1149/1149 [============================] – 0s 234us/step – loss: 0.9025
Epoch 3/20

  10/1149 […] – ETA: 0s – loss: 0.4225
1149/1149 [============================] – 0s 213us/step – loss: 0.1445
Epoch 9/15

  10/1149 […] – ETA: 0s – loss: 0.1838
 230/1148 [=====>…] – ETA: 0s – loss: 0.1213
 670/1148 [===============>…] – ETA: 0s – loss: 0.0831
 940/1149 [======================>…] – ETA: 0s – loss: 0.1333
1000/1149 [=======================>…] – ETA: 0s – loss: 0.1471
1020/1149 [=======================>…] – ETA: 0s – loss: 1.0359
1030/1149 [=======================>…] – ETA: 0s – loss: 0.1132
 240/1149 [=====>…] – ETA: 0s – loss: 0.6586
1149/1149 [============================] – 0s 250us/step – loss: 1.0049

1149/1149 [============================] – 0s 245us/step – loss: 0.1107
Epoch 3/20

  10/1149 […] – ETA: 0s – loss: 0.4831Epoch 14/15
```

```
  10/1149 […] - ETA: 0s - loss: 0.0312
 170/1149 [===>…] - ETA: 0s - loss: 0.2260
 460/1148 [==========>…] - ETA: 0s - loss: 0.1284
1149/1149 [==============================] - 0s 263us/step - loss: 0.1421


 890/1148 [======================>…] - ETA: 0s - loss: 0.0796
1149/1149 [==============================] - 0s 218us/step - loss: 0.1317
Epoch 8/15

  10/1149 […] - ETA: 0s - loss: 0.0669Epoch 9/15


  10/1149 […] - ETA: 0s - loss: 0.1490
 410/1149 [=========>…] - ETA: 0s - loss: 0.5943
 270/1149 [======>…] - ETA: 0s - loss: 0.7524
 250/1149 [=====>…] - ETA: 0s - loss: 0.0964
 690/1148 [================>…] - ETA: 0s - loss: 0.1191
1130/1148 [============================>.] - ETA: 0s - loss: 0.0779
 330/1149 [=======>…] - ETA: 0s - loss: 0.1751
 230/1149 [=====>…] - ETA: 0s - loss: 0.1424
 240/1149 [=====>…] - ETA: 0s - loss: 0.1393
1148/1148 [==============================] - 0s 232us/step - loss: 0.0788


 580/1149 [==============>…] - ETA: 0s - loss: 0.5948
 490/1149 [==========>…] - ETA: 0s - loss: 0.7186
 450/1149 [=========>…] - ETA: 0s - loss: 0.0955
 900/1148 [======================>…] - ETA: 0s - loss: 0.1137
 550/1149 [============>…] - ETA: 0s - loss: 0.1520
 440/1149 [=========>…] - ETA: 0s - loss: 0.1353
 470/1149 [==========>…] - ETA: 0s - loss: 0.1245
 790/1149 [==================>…] - ETA: 0s - loss: 0.5526
 700/1149 [================>…] - ETA: 0s - loss: 0.7389
 670/1149 [================>…] - ETA: 0s - loss: 0.0902
1120/1148 [===========================>.] - ETA: 0s - loss: 0.1088
 800/1149 [==================>…] - ETA: 0s - loss: 0.1427
 660/1149 [================>…] - ETA: 0s - loss: 0.1214
 660/1149 [================>…] - ETA: 0s - loss: 0.1268
1148/1148 [==============================] - 0s 232us/step - loss: 0.1091
Epoch 6/20

  10/1148 […] - ETA: 0s - loss: 0.0756
1030/1149 [==========================>…] - ETA: 0s - loss: 0.5139
 920/1149 [=======================>…] - ETA: 0s - loss: 0.6656
 860/1149 [=====================>…] - ETA: 0s - loss: 0.1015
1020/1149 [==========================>…] - ETA: 0s - loss: 0.1419
 900/1149 [=====================>…] - ETA: 0s - loss: 0.1332
 890/1149 [=====================>…] - ETA: 0s - loss: 0.1298
 220/1148 [====>…] - ETA: 0s - loss: 0.1047
1149/1149 [==============================] - 0s 253us/step - loss: 0.5157
```

```
Epoch 4/20

  10/1149 […] - ETA: 0s - loss: 0.2441
1149/1149 [==============================] - 0s 263us/step - loss: 0.1416
Epoch 10/15

  10/1149 […] - ETA: 0s - loss: 0.1111
1100/1149 [===========================>..] - ETA: 0s - loss: 0.6664
1080/1149 [===========================>..] - ETA: 0s - loss: 0.1099
1090/1149 [===========================>..] - ETA: 0s - loss: 0.1375
1130/1149 [============================>.] - ETA: 0s - loss: 0.1295
1149/1149 [==============================] - 0s 236us/step - loss: 0.6612

 450/1148 [=========>…] - ETA: 0s - loss: 0.1084Epoch 4/20

  10/1149 […] - ETA: 0s - loss: 0.5324
1149/1149 [==============================] - 0s 232us/step - loss: 0.1291
Epoch 10/15

  10/1149 […] - ETA: 0s - loss: 0.1084
1149/1149 [==============================] - 0s 240us/step - loss: 0.1093

 260/1149 [=====>…] - ETA: 0s - loss: 0.2543Epoch 15/15

  10/1149 […] - ETA: 0s - loss: 0.0509
1149/1149 [==============================] - 0s 242us/step - loss: 0.1371
Epoch 9/15

  10/1149 […] - ETA: 0s - loss: 0.0895
 180/1149 [===>…] - ETA: 0s - loss: 0.0988
 170/1149 [===>…] - ETA: 0s - loss: 0.4959
 660/1148 [===============>…] - ETA: 0s - loss: 0.1056
 230/1149 [=====>…] - ETA: 0s - loss: 0.1025
 480/1149 [==========>…] - ETA: 0s - loss: 0.2754
 230/1149 [=====>…] - ETA: 0s - loss: 0.1052
 200/1149 [====>…] - ETA: 0s - loss: 0.1135
 420/1149 [========>…] - ETA: 0s - loss: 0.1255
 440/1149 [=========>…] - ETA: 0s - loss: 0.4270
 860/1148 [====================>…] - ETA: 0s - loss: 0.1001
 440/1149 [=========>…] - ETA: 0s - loss: 0.1006
 680/1149 [===============>…] - ETA: 0s - loss: 0.2623
 430/1149 [=========>…] - ETA: 0s - loss: 0.0991
 390/1149 [=========>…] - ETA: 0s - loss: 0.1119
 670/1149 [===============>…] - ETA: 0s - loss: 0.1437
 630/1149 [==============>…] - ETA: 0s - loss: 0.4249
1040/1148 [==========================>…] - ETA: 0s - loss: 0.1046
 630/1149 [==============>…] - ETA: 0s - loss: 0.1064
 890/1149 [=====================>…] - ETA: 0s - loss: 0.2541
```

```
 620/1149 [==============>…] - ETA: 0s - loss: 0.0989
 620/1149 [==============>…] - ETA: 0s - loss: 0.1230
1148/1148 [==============================] - 0s 251us/step - loss: 0.1008
Epoch 7/20

  10/1148 […] - ETA: 0s - loss: 0.1168
 910/1149 [=====================>…] - ETA: 0s - loss: 0.1411
 840/1149 [===================>…] - ETA: 0s - loss: 0.3833
1090/1149 [===========================>..] - ETA: 0s - loss: 0.2388
 860/1149 [====================>…] - ETA: 0s - loss: 0.1168
 810/1149 [===================>…] - ETA: 0s - loss: 0.0937
 830/1149 [===================>…] - ETA: 0s - loss: 0.1313
1149/1149 [==============================] - 0s 237us/step - loss: 0.2329
Epoch 5/20

  10/1149 […] - ETA: 0s - loss: 0.0918
 190/1148 [===>…] - ETA: 0s - loss: 0.1342
1120/1149 [===========================>.] - ETA: 0s - loss: 0.1392
1149/1149 [==============================] - 0s 234us/step - loss: 0.1397
Epoch 11/15

  10/1149 […] - ETA: 0s - loss: 0.1165
1050/1149 [==========================>…] - ETA: 0s - loss: 0.3683
1070/1149 [==========================>…] - ETA: 0s - loss: 0.1303
1000/1149 [========================>…] - ETA: 0s - loss: 0.1079
1040/1149 [=========================>…] - ETA: 0s - loss: 0.1308
1149/1149 [==============================] - 0s 242us/step - loss: 0.3681
Epoch 5/20

  10/1149 […] - ETA: 0s - loss: 0.1688
1149/1149 [==============================] - 0s 243us/step - loss: 0.1277

 240/1149 [=====>…] - ETA: 0s - loss: 0.1000Epoch 11/15

  10/1149 […] - ETA: 0s - loss: 0.0798
 410/1148 [=========>…] - ETA: 0s - loss: 0.1110
1149/1149 [==============================] - 0s 249us/step - loss: 0.1341
Epoch 10/15

  10/1149 […] - ETA: 0s - loss: 0.0286
1149/1149 [==============================] - 0s 262us/step - loss: 0.1075

 220/1149 [====>…] - ETA: 0s - loss: 0.1463
 240/1149 [=====>…] - ETA: 0s - loss: 0.2916
 460/1149 [==========>…] - ETA: 0s - loss: 0.1366
 240/1149 [=====>…] - ETA: 0s - loss: 0.1622
 640/1148 [==============>…] - ETA: 0s - loss: 0.1060
 220/1149 [====>…] - ETA: 0s - loss: 0.1905
```

```
 380/1149 [=======>…] - ETA: 0s - loss: 0.1399
 480/1149 [==========>…] - ETA: 0s - loss: 0.2537
 690/1149 [================>…] - ETA: 0s - loss: 0.1505
 470/1149 [==========>…] - ETA: 0s - loss: 0.1241
 890/1148 [=====================>…] - ETA: 0s - loss: 0.1022
 460/1149 [==========>…] - ETA: 0s - loss: 0.1576
 560/1149 [============>…] - ETA: 0s - loss: 0.1460
 930/1149 [======================>…] - ETA: 0s - loss: 0.1424
 710/1149 [================>…] - ETA: 0s - loss: 0.2561
 710/1149 [================>…] - ETA: 0s - loss: 0.1145
1148/1148 [=============================] - 0s 224us/step - loss: 0.0967
Epoch 8/20

  10/1148 […] - ETA: 0s - loss: 0.0189
 710/1149 [================>…] - ETA: 0s - loss: 0.1423
 790/1149 [==================>…] - ETA: 0s - loss: 0.1430
1149/1149 [=============================] - 0s 223us/step - loss: 0.1413
Epoch 6/20

  10/1149 […] - ETA: 0s - loss: 0.0715
 840/1149 [===================>…] - ETA: 0s - loss: 0.1282
 830/1149 [===================>…] - ETA: 0s - loss: 0.2438
 280/1148 [======>…] - ETA: 0s - loss: 0.0827
 950/1149 [======================>…] - ETA: 0s - loss: 0.1359
1050/1149 [=========================>…] - ETA: 0s - loss: 0.1390
1149/1149 [=============================] - 0s 242us/step - loss: 0.1379
Epoch 12/15

  10/1149 […] - ETA: 0s - loss: 0.1876
 270/1149 [======>…] - ETA: 0s - loss: 0.1831
 930/1149 [======================>…] - ETA: 0s - loss: 0.1258
 530/1148 [============>…] - ETA: 0s - loss: 0.0865
1149/1149 [=============================] - 0s 216us/step - loss: 0.1308

 940/1149 [======================>…] - ETA: 0s - loss: 0.2368Epoch 11/15

  10/1149 […] - ETA: 0s - loss: 0.1719
 250/1149 [=====>…] - ETA: 0s - loss: 0.1219
 480/1149 [==========>…] - ETA: 0s - loss: 0.1429Epoch 1/20

  10/1149 […] - ETA: 35s - loss: 1.8853
1149/1149 [=============================] - 0s 275us/step - loss: 0.2240

1120/1149 [===========================>.] - ETA: 0s - loss: 0.1288
 740/1148 [=================>…] - ETA: 0s - loss: 0.0999Epoch 6/20

  10/1149 […] - ETA: 0s - loss: 0.1132
 220/1149 [====>…] - ETA: 0s - loss: 0.1136
```

```
1149/1149 [==============================] - 0s 278us/step - loss: 0.1268
Epoch 12/15

  10/1149 [...] - ETA: 0s - loss: 0.1730
 510/1149 [===========>...] - ETA: 0s - loss: 0.1213
 660/1149 [================>...] - ETA: 0s - loss: 0.1385
  70/1149 [>...] - ETA: 5s - loss: 0.9568
 990/1148 [=======================>...] - ETA: 0s - loss: 0.0965
 250/1149 [=====>...] - ETA: 0s - loss: 0.1845
 480/1149 [==========>...] - ETA: 0s - loss: 0.1067
 250/1149 [=====>...] - ETA: 0s - loss: 0.1246
1148/1148 [==============================] - 0s 208us/step - loss: 0.0938
Epoch 9/20

  10/1148 [...] - ETA: 0s - loss: 0.0965
 740/1149 [==================>...] - ETA: 0s - loss: 0.1403
 880/1149 [=====================>...] - ETA: 0s - loss: 0.1338
 200/1149 [====>...] - ETA: 1s - loss: 1.0462
 530/1149 [===========>...] - ETA: 0s - loss: 0.1679
 710/1149 [=================>...] - ETA: 0s - loss: 0.1283
 500/1149 [===========>...] - ETA: 0s - loss: 0.1187
 220/1148 [====>...] - ETA: 0s - loss: 0.0741
 970/1149 [=======================>...] - ETA: 0s - loss: 0.1347
1130/1149 [============================>.] - ETA: 0s - loss: 0.1302
 800/1149 [===================>...] - ETA: 0s - loss: 0.1547
1149/1149 [==============================] - 0s 234us/step - loss: 0.1293

 930/1149 [======================>...] - ETA: 0s - loss: 0.1337Epoch 7/20

  10/1149 [...] - ETA: 0s - loss: 0.0479
 300/1149 [======>...] - ETA: 1s - loss: 1.0463
 800/1149 [===================>...] - ETA: 0s - loss: 0.1245
1149/1149 [==============================] - 0s 219us/step - loss: 0.1377
Epoch 13/15

  10/1149 [...] - ETA: 0s - loss: 0.0506
 470/1148 [==========>...] - ETA: 0s - loss: 0.0794
1050/1149 [==========================>...] - ETA: 0s - loss: 0.1643
1120/1149 [===========================>.] - ETA: 0s - loss: 0.1310
 240/1149 [=====>...] - ETA: 0s - loss: 0.1524
 380/1149 [=======>...] - ETA: 1s - loss: 1.1147
1149/1149 [==============================] - 0s 229us/step - loss: 0.1298

1030/1149 [=========================>...] - ETA: 0s - loss: 0.1273Epoch 12/15

  10/1149 [...] - ETA: 0s - loss: 0.1312
1149/1149 [==============================] - 0s 202us/step - loss: 0.1601
Epoch 7/20
```

```
  10/1149 [...] - ETA: 0s - loss: 0.1405
1149/1149 [==============================] - 0s 199us/step - loss: 0.1254
Epoch 13/15

  10/1149 [...] - ETA: 0s - loss: 0.0297
 260/1149 [=====>...] - ETA: 0s - loss: 0.1211
 710/1148 [================>...] - ETA: 0s - loss: 0.0905
 510/1149 [===========>...] - ETA: 0s - loss: 0.1417
 300/1149 [======>...] - ETA: 0s - loss: 0.1001
 460/1149 [==========>...] - ETA: 0s - loss: 1.1805
 240/1149 [=====>...] - ETA: 0s - loss: 0.1294
 260/1149 [=====>...] - ETA: 0s - loss: 0.1518
 520/1149 [===========>...] - ETA: 0s - loss: 0.1215
 960/1148 [=======================>...] - ETA: 0s - loss: 0.0907
 780/1149 [==================>...] - ETA: 0s - loss: 0.1303
 540/1149 [============>...] - ETA: 0s - loss: 0.1000
 560/1149 [============>...] - ETA: 0s - loss: 1.1129
1148/1148 [==============================] - 0s 214us/step - loss: 0.0917
Epoch 10/20

  10/1148 [...] - ETA: 0s - loss: 0.0436
 500/1149 [===========>...] - ETA: 0s - loss: 0.1563
 530/1149 [===========>...] - ETA: 0s - loss: 0.1309
 770/1149 [==================>...] - ETA: 0s - loss: 0.1214
 970/1149 [========================>...] - ETA: 0s - loss: 0.1272
 780/1149 [==================>...] - ETA: 0s - loss: 0.1058
 680/1149 [================>...] - ETA: 0s - loss: 1.0840
 740/1149 [==================>...] - ETA: 0s - loss: 0.1549
 270/1148 [======>...] - ETA: 0s - loss: 0.0996
 780/1149 [==================>...] - ETA: 0s - loss: 0.1292
 950/1149 [=======================>...] - ETA: 0s - loss: 0.1230
1149/1149 [==============================] - 0s 219us/step - loss: 0.1246
Epoch 8/20

  10/1149 [...] - ETA: 0s - loss: 0.0837
1060/1149 [==========================>...] - ETA: 0s - loss: 0.1203
 760/1149 [=================>...] - ETA: 0s - loss: 1.1524Epoch 1/20

  10/1149 [...] - ETA: 50s - loss: 0.9933
1149/1149 [==============================] - 0s 194us/step - loss: 0.1287

 970/1149 [=======================>...] - ETA: 0s - loss: 0.1465
 480/1148 [==========>...] - ETA: 0s - loss: 0.0926Epoch 13/15

  10/1149 [...] - ETA: 0s - loss: 0.0835
1149/1149 [==============================] - 0s 221us/step - loss: 0.1355
```

```
1080/1149 [==========================>..] - ETA: 0s - loss: 0.1275Epoch 14/15

  10/1149 [...] - ETA: 0s - loss: 0.1080
1149/1149 [==============================] - 0s 192us/step - loss: 0.1239
Epoch 14/15

  10/1149 [...] - ETA: 0s - loss: 0.1042
 280/1149 [======>...] - ETA: 0s - loss: 0.1480
1149/1149 [==============================] - 0s 214us/step - loss: 0.1419
Epoch 8/20

  10/1149 [...] - ETA: 0s - loss: 0.1125
 950/1149 [=======================>...] - ETA: 0s - loss: 1.1220
  50/1149 [>...] - ETA: 10s - loss: 1.5321
 690/1148 [=================>...] - ETA: 0s - loss: 0.0908
 240/1149 [=====>...] - ETA: 0s - loss: 0.1393
 260/1149 [=====>...] - ETA: 0s - loss: 0.1684
 200/1149 [====>...] - ETA: 0s - loss: 0.1578
 540/1149 [=============>...] - ETA: 0s - loss: 0.1281
1149/1149 [==============================] - 1s 731us/step - loss: 1.1014
Epoch 2/20

  10/1149 [...] - ETA: 0s - loss: 1.1800
 250/1149 [=====>...] - ETA: 0s - loss: 0.1158
 450/1149 [=========>...] - ETA: 0s - loss: 0.1430
 900/1148 [=====================>...] - ETA: 0s - loss: 0.0902
 510/1149 [============>...] - ETA: 0s - loss: 0.1541
 130/1149 [==>...] - ETA: 4s - loss: 1.4989
 420/1149 [=========>...] - ETA: 0s - loss: 0.1342
 800/1149 [==================>...] - ETA: 0s - loss: 0.1334
 290/1149 [======>...] - ETA: 0s - loss: 1.1289
 490/1149 [===========>...] - ETA: 0s - loss: 0.1433
 690/1149 [=================>...] - ETA: 0s - loss: 0.1277
1110/1148 [=============================>.] - ETA: 0s - loss: 0.0906
 760/1149 [==================>...] - ETA: 0s - loss: 0.1378
 210/1149 [====>...] - ETA: 2s - loss: 1.3250
1148/1148 [==============================] - 0s 236us/step - loss: 0.0902
Epoch 11/20

  10/1148 [...] - ETA: 0s - loss: 0.1181
 640/1149 [===============>...] - ETA: 0s - loss: 0.1418
1030/1149 [========================>...] - ETA: 0s - loss: 0.1228
 490/1149 [==========>...] - ETA: 0s - loss: 1.1013
 700/1149 [=================>...] - ETA: 0s - loss: 0.1273
1149/1149 [==============================] - 0s 205us/step - loss: 0.1220

 910/1149 [=====================>...] - ETA: 0s - loss: 0.1332Epoch 9/20
```

```
   10/1149 […] - ETA: 0s - loss: 0.0974
 990/1149 [=======================>…] - ETA: 0s - loss: 0.1399
 260/1148 [=====>…] - ETA: 0s - loss: 0.0900
 350/1149 [========>…] - ETA: 1s - loss: 1.3737
 880/1149 [====================>…] - ETA: 0s - loss: 0.1349
 660/1149 [===============>…] - ETA: 0s - loss: 1.0481
 920/1149 [======================>…] - ETA: 0s - loss: 0.1352
1149/1149 [==============================] - 0s 216us/step - loss: 0.1268
Epoch 14/15

   10/1149 […] - ETA: 0s - loss: 0.0302
1149/1149 [==============================] - 0s 220us/step - loss: 0.1336
Epoch 15/15

   10/1149 […] - ETA: 0s - loss: 0.1978
 230/1149 [=====>…] - ETA: 0s - loss: 0.0958
 520/1148 [============>…] - ETA: 0s - loss: 0.0915
 470/1149 [===========>…] - ETA: 1s - loss: 1.3310
1110/1149 [===========================>..] - ETA: 0s - loss: 0.1246
1149/1149 [==============================] - 0s 234us/step - loss: 0.1234

 930/1149 [=======================>…] - ETA: 0s - loss: 0.9470Epoch 15/15

   10/1149 […] - ETA: 0s - loss: 0.0547
1149/1149 [==============================] - 0s 223us/step - loss: 0.1357
Epoch 9/20

   10/1149 […] - ETA: 0s - loss: 0.1296
 190/1149 [===>…] - ETA: 0s - loss: 0.1365
 220/1149 [====>…] - ETA: 0s - loss: 0.1423
 450/1149 [==========>…] - ETA: 0s - loss: 0.1350
 740/1148 [==================>…] - ETA: 0s - loss: 0.0915
 570/1149 [=============>…] - ETA: 0s - loss: 1.2816
1149/1149 [==============================] - 0s 220us/step - loss: 0.8833
Epoch 3/20

   10/1149 […] - ETA: 0s - loss: 0.2727
 270/1149 [======>…] - ETA: 0s - loss: 0.1368
 230/1149 [=====>…] - ETA: 0s - loss: 0.1355
 390/1149 [========>…] - ETA: 0s - loss: 0.1319
 680/1149 [===============>…] - ETA: 0s - loss: 0.1274
 430/1149 [==========>…] - ETA: 0s - loss: 0.1304
 940/1148 [======================>…] - ETA: 0s - loss: 0.0933
 690/1149 [=================>…] - ETA: 0s - loss: 1.1659
 270/1149 [======>…] - ETA: 0s - loss: 0.7341
 530/1149 [============>…] - ETA: 0s - loss: 0.1113
 460/1149 [==========>…] - ETA: 0s - loss: 0.1106
 570/1149 [=============>…] - ETA: 0s - loss: 0.1445
```

```
 890/1149 [=====================>…] - ETA: 0s - loss: 0.1218
 630/1149 [==============>…] - ETA: 0s - loss: 0.1427
1148/1148 [==============================] - 0s 227us/step - loss: 0.0887
Epoch 12/20

  10/1148 […] - ETA: 0s - loss: 0.0483
 850/1149 [====================>…] - ETA: 0s - loss: 1.1645
 450/1149 [=========>…] - ETA: 0s - loss: 0.5951
 690/1149 [================>…] - ETA: 0s - loss: 0.1027
 720/1149 [================>…] - ETA: 0s - loss: 0.1298
 770/1149 [==================>…] - ETA: 0s - loss: 0.1346
1140/1149 [===========================>.] - ETA: 0s - loss: 0.1213
 840/1149 [===================>…] - ETA: 0s - loss: 0.1379
1149/1149 [==============================] - 0s 225us/step - loss: 0.1212
Epoch 10/20

  10/1149 […] - ETA: 0s - loss: 0.1085
 250/1148 [=====>…] - ETA: 0s - loss: 0.0907
1060/1149 [=========================>…] - ETA: 0s - loss: 1.1058
 600/1149 [=============>…] - ETA: 0s - loss: 0.5458
 840/1149 [==================>…] - ETA: 0s - loss: 0.1231
 990/1149 [=======================>…] - ETA: 0s - loss: 0.1306
1000/1149 [========================>…] - ETA: 0s - loss: 0.1297
1149/1149 [==============================] - 1s 831us/step - loss: 1.0668
Epoch 2/20

  10/1149 […] - ETA: 0s - loss: 0.7746
1090/1149 [==========================>..] - ETA: 0s - loss: 0.1322
 260/1149 [=====>…] - ETA: 0s - loss: 0.0906
1149/1149 [==============================] - 0s 239us/step - loss: 0.1316

 470/1148 [==========>…] - ETA: 0s - loss: 0.0873
1149/1149 [==============================] - 0s 255us/step - loss: 0.1255
Epoch 15/15

  10/1149 […] - ETA: 0s - loss: 0.1714
 790/1149 [==================>…] - ETA: 0s - loss: 0.5091
1040/1149 [=========================>…] - ETA: 0s - loss: 0.1231
1140/1149 [===========================>.] - ETA: 0s - loss: 0.1322
 250/1149 [=====>…] - ETA: 0s - loss: 0.9087
1149/1149 [==============================] - 0s 233us/step - loss: 0.1318
Epoch 10/20

  10/1149 […] - ETA: 0s - loss: 0.1222
1149/1149 [==============================] - 0s 243us/step - loss: 0.1224

 480/1149 [==========>…] - ETA: 0s - loss: 0.0946
 690/1148 [================>…] - ETA: 0s - loss: 0.0850
```

```
1040/1149 [==========================>…] - ETA: 0s - loss: 0.4675
 230/1149 [=====>…] - ETA: 0s - loss: 0.1560
1149/1149 [==============================] - 0s 241us/step - loss: 0.4556
Epoch 4/20

  10/1149 […] - ETA: 0s - loss: 0.2603
 530/1149 [===========>…] - ETA: 0s - loss: 0.8523
 160/1149 [===>…] - ETA: 0s - loss: 0.1314
 750/1149 [=================>…] - ETA: 0s - loss: 0.1081
 930/1148 [=======================>…] - ETA: 0s - loss: 0.0893
 520/1149 [===========>…] - ETA: 0s - loss: 0.1281
 310/1149 [=======>…] - ETA: 0s - loss: 0.2212
 780/1149 [===================>…] - ETA: 0s - loss: 0.8736
 410/1149 [=========>…] - ETA: 0s - loss: 0.1462
 990/1149 [=======================>…] - ETA: 0s - loss: 0.1170
1148/1148 [==============================] - 0s 222us/step - loss: 0.0877
Epoch 13/20

  10/1148 […] - ETA: 0s - loss: 0.1122
 760/1149 [=================>…] - ETA: 0s - loss: 0.1263
1149/1149 [==============================] - 0s 215us/step - loss: 0.1195
Epoch 11/20

  10/1149 […] - ETA: 0s - loss: 0.0623
 570/1149 [============>…] - ETA: 0s - loss: 0.2155
1030/1149 [=========================>…] - ETA: 0s - loss: 0.8697
 670/1149 [===============>…] - ETA: 0s - loss: 0.1308
 260/1148 [=====>…] - ETA: 0s - loss: 0.0850
1000/1149 [=========================>…] - ETA: 0s - loss: 0.1223
1149/1149 [==============================] - 0s 212us/step - loss: 0.8808
Epoch 3/20

  10/1149 […] - ETA: 0s - loss: 0.6769
 160/1149 [===>…] - ETA: 0s - loss: 0.0933
 840/1149 [===================>…] - ETA: 0s - loss: 0.1897
 960/1149 [=======================>…] - ETA: 0s - loss: 0.1320
1149/1149 [==============================] - 0s 211us/step - loss: 0.1239

 480/1148 [===========>…] - ETA: 0s - loss: 0.0913
 230/1149 [=====>…] - ETA: 0s - loss: 0.7018
1149/1149 [==============================] - 0s 213us/step - loss: 0.1289
Epoch 11/20

  10/1149 […] - ETA: 0s - loss: 0.3646
 400/1149 [========>…] - ETA: 0s - loss: 0.1213
 970/1149 [=======================>…] - ETA: 0s - loss: 0.2028
 740/1148 [==================>…] - ETA: 0s - loss: 0.0884
 510/1149 [===========>…] - ETA: 0s - loss: 0.6966
```

```
 240/1149 [=====>…] - ETA: 0s - loss: 0.1772
 660/1149 [===============>…] - ETA: 0s - loss: 0.1139
1149/1149 [==============================] - 0s 224us/step - loss: 0.1932
Epoch 5/20

  10/1149 […] - ETA: 0s - loss: 0.1034
 970/1148 [========================>…] - ETA: 0s - loss: 0.0885
 740/1149 [==================>…] - ETA: 0s - loss: 0.6617
 470/1149 [==========>…] - ETA: 0s - loss: 0.1362
 870/1149 [====================>…] - ETA: 0s - loss: 0.1164
 280/1149 [======>…] - ETA: 0s - loss: 0.1345
1148/1148 [==============================] - 0s 212us/step - loss: 0.0872
Epoch 14/20

  10/1148 […] - ETA: 0s - loss: 0.0092
 920/1149 [=======================>…] - ETA: 0s - loss: 0.6080
1090/1149 [===========================>..] - ETA: 0s - loss: 0.1118
 640/1149 [===============>…] - ETA: 0s - loss: 0.1333
 520/1149 [============>…] - ETA: 0s - loss: 0.1314
 280/1148 [======>…] - ETA: 0s - loss: 0.0806
1149/1149 [==============================] - 0s 235us/step - loss: 0.1181
Epoch 12/20

  10/1149 […] - ETA: 0s - loss: 0.1022
1120/1149 [===========================>.] - ETA: 0s - loss: 0.5858
1149/1149 [==============================] - 0s 231us/step - loss: 0.5778

 830/1149 [====================>…] - ETA: 0s - loss: 0.1314Epoch 4/20

  10/1149 […] - ETA: 0s - loss: 0.1960
 760/1149 [==================>…] - ETA: 0s - loss: 0.1559
 500/1148 [============>…] - ETA: 0s - loss: 0.0794
 230/1149 [=====>…] - ETA: 0s - loss: 0.1397
1050/1149 [==========================>…] - ETA: 0s - loss: 0.1299
 230/1149 [=====>…] - ETA: 0s - loss: 0.4027
 970/1149 [=======================>…] - ETA: 0s - loss: 0.1462
 710/1148 [================>…] - ETA: 0s - loss: 0.0792
 440/1149 [=========>…] - ETA: 0s - loss: 0.1365
1149/1149 [==============================] - 0s 251us/step - loss: 0.1284
Epoch 12/20

  10/1149 […] - ETA: 0s - loss: 0.0850Epoch 1/5

  20/1148 […] - ETA: 16s - loss: 0.3096
1149/1149 [==============================] - 0s 214us/step - loss: 0.1439
Epoch 6/20

  10/1149 […] - ETA: 0s - loss: 0.2197
```

```
 470/1149 [==========>…] - ETA: 0s - loss: 0.3384
 930/1148 [======================>…] - ETA: 0s - loss: 0.0832
 660/1149 [===============>…] - ETA: 0s - loss: 0.1254
 230/1149 [=====>…] - ETA: 0s - loss: 0.1424
 200/1148 [====>…] - ETA: 1s - loss: 0.4241
 250/1149 [=====>…] - ETA: 0s - loss: 0.1450
 710/1149 [================>…] - ETA: 0s - loss: 0.3166
1140/1148 [===========================>.] - ETA: 0s - loss: 0.0865
1148/1148 [============================] - 0s 227us/step - loss: 0.0861
Epoch 15/20

  10/1148 […] - ETA: 0s - loss: 0.0372
 870/1149 [=====================>…] - ETA: 0s - loss: 0.1267
 450/1149 [=========>…] - ETA: 0s - loss: 0.1297
 480/1148 [==========>…] - ETA: 0s - loss: 0.3718
 470/1149 [==========>…] - ETA: 0s - loss: 0.1300
 980/1149 [=======================>…] - ETA: 0s - loss: 0.3022
 250/1148 [=====>…] - ETA: 0s - loss: 0.0832
1090/1149 [==========================>..] - ETA: 0s - loss: 0.1194Epoch 1/5

  20/1149 […] - ETA: 18s - loss: 1.7877
 720/1149 [=================>…] - ETA: 0s - loss: 0.1369
1149/1149 [============================] - 0s 235us/step - loss: 0.1174
Epoch 13/20

  10/1149 […] - ETA: 0s - loss: 0.2471
1149/1149 [============================] - 0s 206us/step - loss: 0.2860
Epoch 5/20

  10/1149 […] - ETA: 0s - loss: 0.0444
 740/1148 [==================>…] - ETA: 0s - loss: 0.3682
 700/1149 [=================>…] - ETA: 0s - loss: 0.1241
 500/1148 [===========>…] - ETA: 0s - loss: 0.0941
 160/1149 [===>…] - ETA: 2s - loss: 1.2658
 980/1149 [=======================>…] - ETA: 0s - loss: 0.1260
 290/1149 [======>…] - ETA: 0s - loss: 0.1132
 280/1149 [======>…] - ETA: 0s - loss: 0.1901
 980/1148 [=======================>…] - ETA: 0s - loss: 0.3611
 980/1149 [=======================>…] - ETA: 0s - loss: 0.1354
1149/1149 [============================] - 0s 205us/step - loss: 0.1261
Epoch 13/20

  10/1149 […] - ETA: 0s - loss: 0.0772
1148/1148 [============================] - 1s 453us/step - loss: 0.3553
Epoch 2/5

  20/1148 […] - ETA: 0s - loss: 0.4655
 740/1148 [==================>…] - ETA: 0s - loss: 0.0900
```

```
 320/1149 [=======>…] - ETA: 1s - loss: 1.1434
1149/1149 [==============================] - 0s 207us/step - loss: 0.1357
Epoch 7/20

  10/1149 […] - ETA: 0s - loss: 0.0835
 540/1149 [=============>…] - ETA: 0s - loss: 0.1137
 510/1149 [============>…] - ETA: 0s - loss: 0.1637
 260/1149 [=====>…] - ETA: 0s - loss: 0.0912
 360/1148 [========>…] - ETA: 0s - loss: 0.3267
 980/1148 [=======================>…] - ETA: 0s - loss: 0.0876
 520/1149 [============>…] - ETA: 0s - loss: 1.2744
 250/1149 [=====>…] - ETA: 0s - loss: 0.1159
 780/1149 [==================>…] - ETA: 0s - loss: 0.1109
 750/1149 [==================>…] - ETA: 0s - loss: 0.1752
1148/1148 [==============================] - 0s 211us/step - loss: 0.0856
Epoch 16/20

  10/1148 […] - ETA: 0s - loss: 0.0770
 520/1149 [============>…] - ETA: 0s - loss: 0.1253
 640/1148 [===============>…] - ETA: 0s - loss: 0.3075
 720/1149 [=================>…] - ETA: 0s - loss: 1.2165
 510/1149 [============>…] - ETA: 0s - loss: 0.1108
1010/1149 [=========================>…] - ETA: 0s - loss: 0.1118
 990/1149 [========================>…] - ETA: 0s - loss: 0.1704
 220/1148 [====>…] - ETA: 0s - loss: 0.0947
1149/1149 [==============================] - 0s 206us/step - loss: 0.1159

 760/1149 [=================>…] - ETA: 0s - loss: 0.1357Epoch 14/20

  10/1149 […] - ETA: 0s - loss: 0.0642
1040/1148 [==========================>…] - ETA: 0s - loss: 0.2943
1149/1149 [==============================] - 0s 211us/step - loss: 0.1760
Epoch 6/20

  10/1149 […] - ETA: 0s - loss: 0.0822
 750/1149 [=================>…] - ETA: 0s - loss: 0.1364
 880/1149 [====================>…] - ETA: 0s - loss: 1.1796Epoch 1/5

  20/1149 […] - ETA: 24s - loss: 1.3609
1148/1148 [==============================] - 0s 157us/step - loss: 0.2931
Epoch 3/5

  20/1148 […] - ETA: 0s - loss: 0.4187
 470/1148 [==========>…] - ETA: 0s - loss: 0.0885
1000/1149 [========================>…] - ETA: 0s - loss: 0.1299
 250/1149 [=====>…] - ETA: 0s - loss: 0.0828
 270/1149 [======>…] - ETA: 0s - loss: 0.1830
1149/1149 [==============================] - 1s 563us/step - loss: 1.1793
```

```
Epoch 2/5

  20/1149 […] - ETA: 0s - loss: 1.0470
 980/1149 [=======================>…] - ETA: 0s - loss: 0.1327
 420/1149 [=========>…] - ETA: 0s - loss: 1.1805
 460/1148 [==========>…] - ETA: 0s - loss: 0.2644
1149/1149 [=============================] - 0s 212us/step - loss: 0.1270
Epoch 14/20

  10/1149 […] - ETA: 0s - loss: 0.2676
 700/1148 [=================>…] - ETA: 0s - loss: 0.0864
 480/1149 [==========>…] - ETA: 0s - loss: 0.1162
1149/1149 [=============================] - 0s 217us/step - loss: 0.1312
Epoch 8/20

  10/1149 […] - ETA: 0s - loss: 0.1970
 510/1149 [===========>…] - ETA: 0s - loss: 0.1710
 400/1149 [=========>…] - ETA: 0s - loss: 1.0924
 820/1149 [===================>…] - ETA: 0s - loss: 1.2109
 920/1148 [=======================>…] - ETA: 0s - loss: 0.2397
 250/1149 [=====>…] - ETA: 0s - loss: 0.1676
 930/1148 [=======================>…] - ETA: 0s - loss: 0.0834
1148/1148 [=============================] - 0s 116us/step - loss: 0.2250
Epoch 4/5

  20/1148 […] - ETA: 0s - loss: 0.3088
 670/1149 [================>…] - ETA: 0s - loss: 0.1094
 200/1149 [====>…] - ETA: 0s - loss: 0.0940
 750/1149 [=================>…] - ETA: 0s - loss: 0.1585
1148/1148 [=============================] - 0s 216us/step - loss: 0.0850
Epoch 17/20

  10/1148 […] - ETA: 0s - loss: 0.2001
 760/1149 [=================>…] - ETA: 0s - loss: 1.1719
 530/1149 [===========>…] - ETA: 0s - loss: 0.1344
1149/1149 [=============================] - 1s 534us/step - loss: 1.1742
Epoch 2/5

  20/1149 […] - ETA: 0s - loss: 0.5474
 480/1148 [==========>…] - ETA: 0s - loss: 0.1945
 890/1149 [=====================>…] - ETA: 0s - loss: 0.1177
 430/1149 [=========>…] - ETA: 0s - loss: 0.1573
 970/1149 [======================>…] - ETA: 0s - loss: 0.1589
 210/1148 [====>…] - ETA: 0s - loss: 0.0846
 740/1149 [=================>…] - ETA: 0s - loss: 0.1263
 900/1149 [=====================>…] - ETA: 0s - loss: 1.1644
 100/1149 [=>…] - ETA: 0s - loss: 0.9352
1080/1149 [==========================>..] - ETA: 0s - loss: 0.1144
```

```
 680/1148 [================>…] - ETA: 0s - loss: 0.1872
1149/1149 [==============================] - 0s 223us/step - loss: 0.1503
Epoch 7/20

  10/1149 […] - ETA: 0s - loss: 0.1442
 640/1149 [==============>…] - ETA: 0s - loss: 0.1466
1149/1149 [==============================] - 0s 244us/step - loss: 0.1139
Epoch 15/20

  10/1149 […] - ETA: 0s - loss: 0.1167
 930/1149 [======================>…] - ETA: 0s - loss: 0.1233
1149/1149 [==============================] - 0s 198us/step - loss: 1.1091

 390/1148 [=========>…] - ETA: 0s - loss: 0.0863Epoch 3/5

  20/1149 […] - ETA: 0s - loss: 1.2101
 960/1148 [========================>…] - ETA: 0s - loss: 0.1844
 180/1149 [===>…] - ETA: 0s - loss: 0.1347
 820/1149 [====================>…] - ETA: 0s - loss: 0.1379
 300/1149 [======>…] - ETA: 0s - loss: 0.1101
1148/1148 [==============================] - 0s 154us/step - loss: 0.1773
Epoch 5/5

  20/1148 […] - ETA: 0s - loss: 0.1655
1100/1149 [==========================>..] - ETA: 0s - loss: 0.1267
 540/1149 [=============>…] - ETA: 0s - loss: 1.0340
 530/1148 [============>…] - ETA: 0s - loss: 0.0798
1149/1149 [==============================] - 0s 238us/step - loss: 0.1251
Epoch 15/20

  10/1149 […] - ETA: 0s - loss: 0.1270
 350/1149 [========>…] - ETA: 0s - loss: 0.1207
1030/1149 [=========================>…] - ETA: 0s - loss: 0.1309
 590/1149 [=============>…] - ETA: 0s - loss: 0.1084
 180/1149 [===>…] - ETA: 1s - loss: 0.9997
 400/1148 [=========>…] - ETA: 0s - loss: 0.1545
1040/1149 [==========================>…] - ETA: 0s - loss: 0.9756
 680/1148 [===============>…] - ETA: 0s - loss: 0.0855
 180/1149 [===>…] - ETA: 0s - loss: 0.1385
1149/1149 [==============================] - 0s 107us/step - loss: 0.9650
Epoch 4/5

  20/1149 […] - ETA: 0s - loss: 0.9307
1149/1149 [==============================] - 0s 269us/step - loss: 0.1284

 510/1149 [===========>…] - ETA: 0s - loss: 0.1140Epoch 9/20

  10/1149 […] - ETA: 0s - loss: 0.1543
```

```
 760/1149 [==================>…] - ETA: 0s - loss: 0.1138
 540/1149 [=============>…] - ETA: 0s - loss: 1.0883
 700/1148 [=================>…] - ETA: 0s - loss: 0.1473
 930/1148 [======================>…] - ETA: 0s - loss: 0.0885
 340/1149 [=======>…] - ETA: 0s - loss: 0.1211
 300/1149 [======>…] - ETA: 0s - loss: 0.8600
 650/1149 [==============>…] - ETA: 0s - loss: 0.1244
 130/1149 [==>…] - ETA: 0s - loss: 0.1023
 910/1149 [=====================>…] - ETA: 0s - loss: 0.1176
1040/1149 [=========================>…] - ETA: 0s - loss: 1.1096
1000/1148 [==========================>…] - ETA: 0s - loss: 0.1486
1149/1149 [=============================] - 0s 265us/step - loss: 1.1399
Epoch 3/5

  20/1149 […] - ETA: 0s - loss: 0.5728
1140/1148 [============================>.] - ETA: 0s - loss: 0.0847
1148/1148 [=============================] - 0s 279us/step - loss: 0.0847
Epoch 18/20

  10/1148 […] - ETA: 0s - loss: 0.0942
 440/1149 [=========>…] - ETA: 0s - loss: 0.1193
 480/1149 [==========>…] - ETA: 0s - loss: 0.7713
1148/1148 [=============================] - 0s 161us/step - loss: 0.1532

 240/1149 [=====>…] - ETA: 0s - loss: 0.1020
 750/1149 [=================>…] - ETA: 0s - loss: 0.1409
1040/1149 [=========================>…] - ETA: 0s - loss: 0.1166
 440/1149 [=========>…] - ETA: 0s - loss: 1.0189
 200/1148 [====>…] - ETA: 0s - loss: 0.0765
 570/1149 [============>…] - ETA: 0s - loss: 0.1248
1149/1149 [=============================] - 0s 255us/step - loss: 0.1129

 860/1149 [===================>…] - ETA: 0s - loss: 0.7534
 380/1149 [========>…] - ETA: 0s - loss: 0.1123
1020/1149 [========================>…] - ETA: 0s - loss: 0.1482Epoch 16/20

  10/1149 […] - ETA: 0s - loss: 0.1094
1149/1149 [=============================] - 0s 292us/step - loss: 0.1431
Epoch 8/20

  10/1149 […] - ETA: 0s - loss: 0.0937
 840/1149 [===================>…] - ETA: 0s - loss: 1.0337
 400/1148 [========>…] - ETA: 0s - loss: 0.0766
1149/1149 [=============================] - 0s 173us/step - loss: 0.7568

 750/1149 [=================>…] - ETA: 0s - loss: 0.1331Epoch 5/5

  20/1149 […] - ETA: 0s - loss: 1.0752
```

```
 550/1149 [============>…] - ETA: 0s - loss: 0.1059
 190/1149 [===>…] - ETA: 0s - loss: 0.1326
1149/1149 [==============================] - 0s 128us/step - loss: 1.0428
Epoch 4/5

  20/1149 […] - ETA: 0s - loss: 0.4178
 280/1149 [======>…] - ETA: 0s - loss: 0.1233
 590/1148 [=============>…] - ETA: 0s - loss: 0.0867
 930/1149 [=======================>…] - ETA: 0s - loss: 0.1266
 380/1149 [========>…] - ETA: 0s - loss: 0.5787
 760/1149 [==================>…] - ETA: 0s - loss: 0.1330
 380/1149 [========>…] - ETA: 0s - loss: 0.1077
 240/1149 [=====>…] - ETA: 0s - loss: 0.7265
 440/1149 [=========>…] - ETA: 0s - loss: 0.1121
 750/1148 [=================>…] - ETA: 0s - loss: 0.0832
 780/1149 [==================>…] - ETA: 0s - loss: 0.5264
1149/1149 [==============================] - 0s 313us/step - loss: 0.1245
Epoch 16/20

  10/1149 […] - ETA: 0s - loss: 0.0864
1000/1149 [========================>…] - ETA: 0s - loss: 0.1313
 620/1149 [==============>…] - ETA: 0s - loss: 0.1005
1149/1149 [==============================] - 0s 292us/step - loss: 0.1261

 460/1149 [==========>…] - ETA: 0s - loss: 0.8794
 520/1149 [===========>…] - ETA: 0s - loss: 0.1219
1149/1149 [==============================] - 0s 124us/step - loss: 0.5373
Epoch 10/20

  10/1149 […] - ETA: 0s - loss: 0.2156
 870/1148 [=====================>…] - ETA: 0s - loss: 0.0832
 180/1149 [===>…] - ETA: 0s - loss: 0.1003
 850/1149 [=====================>…] - ETA: 0s - loss: 0.1100
 760/1149 [=================>…] - ETA: 0s - loss: 0.8933
 170/1149 [===>…] - ETA: 0s - loss: 0.1248
 570/1149 [============>…] - ETA: 0s - loss: 0.1197
 980/1148 [=======================>…] - ETA: 0s - loss: 0.0837
 940/1149 [======================>…] - ETA: 0s - loss: 0.1091
 300/1149 [======>…] - ETA: 0s - loss: 0.1189
 960/1149 [=======================>…] - ETA: 0s - loss: 0.8637
 320/1149 [=======>…] - ETA: 0s - loss: 0.1427
 600/1149 [=============>…] - ETA: 0s - loss: 0.1190
1140/1148 [===========================>.] - ETA: 0s - loss: 0.0845
1149/1149 [==============================] - 0s 203us/step - loss: 0.9112


1149/1149 [==============================] - 0s 267us/step - loss: 0.1120


1148/1148 [==============================] - 0s 328us/step - loss: 0.0842
```

```
Epoch 5/5

  20/1149 […] - ETA: 0s - loss: 0.7901
 520/1149 [============>…] - ETA: 0s - loss: 0.1322Epoch 19/20

  10/1148 […] - ETA: 0s - loss: 0.1486Epoch 17/20

  10/1149 […] - ETA: 0s - loss: 0.2510
 540/1149 [=============>…] - ETA: 0s - loss: 0.1277
 700/1149 [=================>…] - ETA: 0s - loss: 0.1354
 320/1149 [=======>…] - ETA: 0s - loss: 0.8016
 180/1149 [===>…] - ETA: 0s - loss: 0.1419
 690/1149 [================>…] - ETA: 0s - loss: 0.1336
 190/1148 [===>…] - ETA: 0s - loss: 0.0733
 860/1149 [====================>…] - ETA: 0s - loss: 0.1277
 680/1149 [===============>…] - ETA: 0s - loss: 0.1396
 580/1149 [=============>…] - ETA: 0s - loss: 0.7392
 360/1148 [========>…] - ETA: 0s - loss: 0.0716
 860/1149 [====================>…] - ETA: 0s - loss: 0.1306
 340/1149 [=======>…] - ETA: 0s - loss: 0.1136
1000/1149 [========================>…] - ETA: 0s - loss: 0.1356
 840/1149 [===================>…] - ETA: 0s - loss: 0.1314
 860/1149 [====================>…] - ETA: 0s - loss: 0.8197
 510/1148 [===========>…] - ETA: 0s - loss: 0.0772
 520/1149 [============>…] - ETA: 0s - loss: 0.1051
1010/1149 [========================>…] - ETA: 0s - loss: 0.1248
1149/1149 [=============================] - 0s 399us/step - loss: 0.1382
Epoch 9/20

  10/1149 […] - ETA: 0s - loss: 0.0408
 950/1149 [======================>…] - ETA: 0s - loss: 0.1265
1080/1149 [==========================>..] - ETA: 0s - loss: 0.7912
 710/1148 [=================>…] - ETA: 0s - loss: 0.0801
 810/1149 [===================>…] - ETA: 0s - loss: 0.1075
1149/1149 [=============================] - 0s 326us/step - loss: 0.1238
Epoch 17/20

  10/1149 […] - ETA: 0s - loss: 0.3595
1149/1149 [=============================] - 0s 200us/step - loss: 0.8170

 260/1149 [=====>…] - ETA: 0s - loss: 0.1164
1070/1149 [=========================>…] - ETA: 0s - loss: 0.1248
 930/1148 [======================>…] - ETA: 0s - loss: 0.0818
1149/1149 [=============================] - 0s 225us/step - loss: 0.1107
Epoch 18/20

  10/1149 […] - ETA: 0s - loss: 0.0803
  80/1149 [=>…] - ETA: 0s - loss: 0.2321
```

```
1149/1149 [==============================] - 0s 346us/step - loss: 0.1250
Epoch 11/20

  10/1149 […] - ETA: 0s - loss: 0.0436
 550/1149 [=============>…] - ETA: 0s - loss: 0.1299
1148/1148 [==============================] - 0s 264us/step - loss: 0.0837
Epoch 20/20

  10/1148 […] - ETA: 0s - loss: 0.0380
 290/1149 [======>…] - ETA: 0s - loss: 0.1240
 380/1149 [========>…] - ETA: 0s - loss: 0.1259
 320/1149 [=======>…] - ETA: 0s - loss: 0.1063
 730/1149 [==================>…] - ETA: 0s - loss: 0.1226
 230/1148 [=====>…] - ETA: 0s - loss: 0.0650
 540/1149 [=============>…] - ETA: 0s - loss: 0.1041
 660/1149 [================>…] - ETA: 0s - loss: 0.1185
 600/1149 [=============>…] - ETA: 0s - loss: 0.1194
 940/1149 [=======================>…] - ETA: 0s - loss: 0.1298
 380/1148 [========>…] - ETA: 0s - loss: 0.0743
 790/1149 [===================>…] - ETA: 0s - loss: 0.1032
 910/1149 [======================>…] - ETA: 0s - loss: 0.1159
 840/1149 [====================>…] - ETA: 0s - loss: 0.1279
1149/1149 [==============================] - 0s 217us/step - loss: 0.1347
Epoch 10/20

  10/1149 […] - ETA: 0s - loss: 0.1403
 610/1148 [==============>…] - ETA: 0s - loss: 0.0786
1040/1149 [==========================>…] - ETA: 0s - loss: 0.1041
1120/1149 [============================>.] - ETA: 0s - loss: 0.1255
1020/1149 [=========================>…] - ETA: 0s - loss: 0.1246
 280/1149 [======>…] - ETA: 0s - loss: 0.1496
1149/1149 [==============================] - 0s 235us/step - loss: 0.1234

1149/1149 [==============================] - 0s 197us/step - loss: 0.1104
Epoch 18/20

  10/1149 […] - ETA: 0s - loss: 0.0456Epoch 19/20

  10/1149 […] - ETA: 0s - loss: 0.0527
 830/1148 [====================>…] - ETA: 0s - loss: 0.0803
1149/1149 [==============================] - 0s 207us/step - loss: 0.1233
Epoch 12/20

  10/1149 […] - ETA: 0s - loss: 0.1121
 530/1149 [============>…] - ETA: 0s - loss: 0.1338
 230/1149 [=====>…] - ETA: 0s - loss: 0.1242
 250/1149 [=====>…] - ETA: 0s - loss: 0.1211
1040/1148 [==========================>…] - ETA: 0s - loss: 0.0819
```

```
 230/1149 [=====>…] – ETA: 0s – loss: 0.1784
 610/1149 [==============>…] – ETA: 0s – loss: 0.1330
1148/1148 [==============================] – 0s 243us/step – loss: 0.0826


 500/1149 [============>…] – ETA: 0s – loss: 0.1187
 500/1149 [============>…] – ETA: 0s – loss: 0.1128Epoch 1/5


  20/1149 […] – ETA: 20s – loss: 0.6301
 440/1149 [=========>…] – ETA: 0s – loss: 0.1418
 810/1149 [====================>…] – ETA: 0s – loss: 0.1340
 740/1149 [==================>…] – ETA: 0s – loss: 0.1192
 730/1149 [==================>…] – ETA: 0s – loss: 0.1094
 720/1149 [=================>…] – ETA: 0s – loss: 0.1275
 160/1149 [===>…] – ETA: 2s – loss: 1.0861
1070/1149 [==========================>…] – ETA: 0s – loss: 0.1336
1040/1149 [==========================>…] – ETA: 0s – loss: 0.1249
 980/1149 [=======================>…] – ETA: 0s – loss: 0.1056
1149/1149 [==============================] – 0s 238us/step – loss: 0.1316
Epoch 11/20


  10/1149 […] – ETA: 0s – loss: 0.0942
1149/1149 [==============================] – 0s 194us/step – loss: 0.1223
Epoch 19/20


  10/1149 […] – ETA: 0s – loss: 0.0902
1000/1149 [=========================>…] – ETA: 0s – loss: 0.1213
 460/1149 [===========>…] – ETA: 0s – loss: 1.1688
1149/1149 [==============================] – 0s 217us/step – loss: 0.1093
Epoch 20/20


  10/1149 […] – ETA: 0s – loss: 0.1004
1149/1149 [==============================] – 0s 207us/step – loss: 0.1220
Epoch 13/20


  10/1149 […] – ETA: 0s – loss: 0.1082
 260/1149 [=====>…] – ETA: 0s – loss: 0.1400
 270/1149 [======>…] – ETA: 0s – loss: 0.1198
 760/1149 [=================>…] – ETA: 0s – loss: 1.1763
 260/1149 [=====>…] – ETA: 0s – loss: 0.1316
 220/1149 [====>…] – ETA: 0s – loss: 0.0948
 500/1149 [============>…] – ETA: 0s – loss: 0.1359
 530/1149 [============>…] – ETA: 0s – loss: 0.1027
1120/1149 [===========================>.] – ETA: 0s – loss: 1.1323
1149/1149 [==============================] – 1s 512us/step – loss: 1.1202
Epoch 2/5


  20/1149 […] – ETA: 0s – loss: 1.1961
 520/1149 [===========>…] – ETA: 0s – loss: 0.1100
```

```
 450/1149 [==========>…] - ETA: 0s - loss: 0.1004
 770/1149 [==================>…] - ETA: 0s - loss: 0.1287
 770/1149 [==================>…] - ETA: 0s - loss: 0.1252
 320/1149 [=======>…] - ETA: 0s - loss: 0.9693
 770/1149 [==================>…] - ETA: 0s - loss: 0.1136
 700/1149 [================>…] - ETA: 0s - loss: 0.1304
1040/1149 [========================>…] - ETA: 0s - loss: 0.1315
 980/1149 [=======================>…] - ETA: 0s - loss: 0.1201
1149/1149 [=============================] - 0s 196us/step - loss: 0.1296
Epoch 12/20

  10/1149 […] - ETA: 0s - loss: 0.1548
 520/1149 [============>…] - ETA: 0s - loss: 0.9913Epoch 1/5

  20/1149 […] - ETA: 21s - loss: 1.1527
1010/1149 [=========================>…] - ETA: 0s - loss: 0.1123Epoch 1/10

  20/1148 […] - ETA: 22s - loss: 0.3815
 970/1149 [=======================>…] - ETA: 0s - loss: 0.1217
1149/1149 [=============================] - 0s 214us/step - loss: 0.1219
Epoch 20/20

  10/1149 […] - ETA: 0s - loss: 0.0371
1149/1149 [=============================] - 0s 207us/step - loss: 0.1083

 280/1149 [======>…] - ETA: 0s - loss: 0.1351
1040/1149 [=========================>…] - ETA: 0s - loss: 1.0552
1149/1149 [=============================] - 0s 209us/step - loss: 0.1208
Epoch 14/20

  10/1149 […] - ETA: 0s - loss: 0.0558
 220/1149 [====>…] - ETA: 1s - loss: 1.2984
1149/1149 [=============================] - 0s 144us/step - loss: 1.0362
Epoch 3/5

  20/1149 […] - ETA: 0s - loss: 0.9289
 140/1148 [==>…] - ETA: 3s - loss: 0.3562
 260/1149 [=====>…] - ETA: 0s - loss: 0.0999
 540/1149 [=============>…] - ETA: 0s - loss: 0.1367
 270/1149 [======>…] - ETA: 0s - loss: 0.1315
 360/1149 [========>…] - ETA: 1s - loss: 1.1645
 640/1149 [==============>…] - ETA: 0s - loss: 0.8818
 520/1148 [============>…] - ETA: 0s - loss: 0.3621
 560/1149 [=============>…] - ETA: 0s - loss: 0.1142
 790/1149 [==================>…] - ETA: 0s - loss: 0.1415
 500/1149 [============>…] - ETA: 0s - loss: 0.1235
1040/1149 [=========================>…] - ETA: 0s - loss: 0.8635
 740/1148 [=================>…] - ETA: 0s - loss: 0.3549
```

```
 770/1149 [==================>…] - ETA: 0s - loss: 0.1129
1149/1149 [==============================] - 0s 101us/step - loss: 0.8638


 460/1149 [==========>…] - ETA: 0s - loss: 1.1552Epoch 4/5


  20/1149 […] - ETA: 0s - loss: 0.5754
1030/1149 [=========================>…] - ETA: 0s - loss: 0.1305
 750/1149 [=================>…] - ETA: 0s - loss: 0.1304Epoch 1/10


  20/1149 […] - ETA: 15s - loss: 0.8154
1060/1148 [=========================>…] - ETA: 0s - loss: 0.3429
1149/1149 [==============================] - 0s 201us/step - loss: 0.1268


1000/1149 [=========================>…] - ETA: 0s - loss: 0.1250Epoch 13/20


  10/1149 […] - ETA: 0s - loss: 0.1178
 720/1149 [=================>…] - ETA: 0s - loss: 1.0876
 560/1149 [=============>…] - ETA: 0s - loss: 0.6658
1148/1148 [==============================] - 1s 544us/step - loss: 0.3444
Epoch 2/10


  20/1148 […] - ETA: 0s - loss: 0.2249
1149/1149 [==============================] - 0s 204us/step - loss: 0.1200


 970/1149 [=======================>…] - ETA: 0s - loss: 0.1211
1149/1149 [==============================] - 1s 555us/step - loss: 1.0966


  80/1149 [=>…] - ETA: 4s - loss: 1.4018 Epoch 2/5


  20/1149 […] - ETA: 0s - loss: 0.6985
 230/1149 [=====>…] - ETA: 0s - loss: 0.1078
1000/1149 [========================>…] - ETA: 0s - loss: 0.6163
1149/1149 [==============================] - 0s 103us/step - loss: 0.6108
Epoch 5/5


  20/1149 […] - ETA: 0s - loss: 0.3591
 360/1148 [=======>…] - ETA: 0s - loss: 0.3038
1149/1149 [==============================] - 0s 218us/step - loss: 0.1216
Epoch 15/20


  10/1149 […] - ETA: 0s - loss: 0.0270
 640/1149 [==============>…] - ETA: 0s - loss: 1.0645
 120/1149 [==>…] - ETA: 3s - loss: 1.3259
 440/1149 [=========>…] - ETA: 0s - loss: 0.1280
 580/1149 [==============>…] - ETA: 0s - loss: 0.4344
 800/1148 [==================>…] - ETA: 0s - loss: 0.2874
 240/1149 [=====>…] - ETA: 0s - loss: 0.1443
1040/1149 [=========================>…] - ETA: 0s - loss: 1.0742
```

```
 400/1149 [=========>…] - ETA: 0s - loss: 1.2861
1148/1148 [==============================] - 0s 118us/step - loss: 0.2623


 700/1149 [================>…] - ETA: 0s - loss: 0.1174Epoch 3/10

  20/1148 […] - ETA: 0s - loss: 0.2188
1149/1149 [==============================] - 0s 101us/step - loss: 1.0799
Epoch 3/5

  20/1149 […] - ETA: 0s - loss: 1.4942
1040/1149 [==========================>…] - ETA: 0s - loss: 0.3995
 480/1149 [==========>…] - ETA: 0s - loss: 0.1194
1149/1149 [==============================] - 0s 101us/step - loss: 0.3941


 990/1149 [========================>…] - ETA: 0s - loss: 0.1206
 580/1148 [==============>…] - ETA: 0s - loss: 0.2036
 460/1149 [==========>…] - ETA: 0s - loss: 1.1515
 580/1149 [==============>…] - ETA: 0s - loss: 1.3465
 720/1149 [================>…] - ETA: 0s - loss: 0.1103
1149/1149 [==============================] - 0s 207us/step - loss: 0.1247
Epoch 14/20

  10/1149 […] - ETA: 0s - loss: 0.0803
1080/1148 [===========================>..] - ETA: 0s - loss: 0.1991
1148/1148 [==============================] - 0s 96us/step - loss: 0.1971


 900/1149 [=====================>…] - ETA: 0s - loss: 1.0915Epoch 4/10

  20/1148 […] - ETA: 0s - loss: 0.1239
 880/1149 [=====================>…] - ETA: 0s - loss: 1.2377
 990/1149 [========================>…] - ETA: 0s - loss: 0.1086
 260/1149 [=====>…] - ETA: 0s - loss: 0.1918
1149/1149 [==============================] - 0s 127us/step - loss: 1.0472
Epoch 4/5

  20/1149 […] - ETA: 0s - loss: 2.4997
1149/1149 [==============================] - 0s 206us/step - loss: 0.1195


 480/1148 [==========>…] - ETA: 0s - loss: 0.1536Epoch 16/20

  10/1149 […] - ETA: 0s - loss: 0.0774
1100/1149 [==========================>..] - ETA: 0s - loss: 1.2063
1149/1149 [==============================] - 1s 540us/step - loss: 1.1838
Epoch 2/10

  20/1149 […] - ETA: 0s - loss: 0.6572
 530/1149 [============>…] - ETA: 0s - loss: 0.1552
 400/1149 [========>…] - ETA: 0s - loss: 0.9663
```

```
1020/1148 [=========================>…] - ETA: 0s - loss: 0.1551
 250/1149 [=====>…] - ETA: 0s - loss: 0.1376
 280/1149 [======>…] - ETA: 0s - loss: 1.1063
1148/1148 [==============================] - 0s 106us/step - loss: 0.1574

 730/1149 [=================>…] - ETA: 0s - loss: 0.1419Epoch 5/10

  20/1148 […] - ETA: 0s - loss: 0.2114
 880/1149 [====================>…] - ETA: 0s - loss: 0.9884
 480/1149 [==========>…] - ETA: 0s - loss: 0.1384
1149/1149 [==============================] - 0s 114us/step - loss: 0.9814

 740/1149 [=================>…] - ETA: 0s - loss: 1.1159Epoch 5/5

  20/1149 […] - ETA: 0s - loss: 0.9577
 970/1149 [========================>…] - ETA: 0s - loss: 0.1276
 520/1148 [===========>…] - ETA: 0s - loss: 0.1414
 720/1149 [=================>…] - ETA: 0s - loss: 0.1273
1149/1149 [==============================] - 0s 208us/step - loss: 0.1221
Epoch 15/20

  10/1149 […] - ETA: 0s - loss: 0.0461
 500/1149 [===========>…] - ETA: 0s - loss: 0.7460
1140/1149 [============================>.] - ETA: 0s - loss: 1.1306
1149/1149 [==============================] - 0s 138us/step - loss: 1.1270
Epoch 3/10

  20/1149 […] - ETA: 0s - loss: 0.4614
1000/1148 [=========================>…] - ETA: 0s - loss: 0.1362
1148/1148 [==============================] - 0s 112us/step - loss: 0.1322
Epoch 6/10

  20/1148 […] - ETA: 0s - loss: 0.1695Epoch 1/10

  20/1149 […] - ETA: 26s - loss: 0.6421
 950/1149 [=======================>…] - ETA: 0s - loss: 0.1211
 210/1149 [====>…] - ETA: 0s - loss: 0.1114
 880/1149 [====================>…] - ETA: 0s - loss: 0.7890
 480/1149 [==========>…] - ETA: 0s - loss: 1.0086
1149/1149 [==============================] - 0s 114us/step - loss: 0.8756

 520/1148 [===========>…] - ETA: 0s - loss: 0.1283
 300/1149 [======>…] - ETA: 1s - loss: 1.1332
1149/1149 [==============================] - 0s 226us/step - loss: 0.1179
Epoch 17/20

  10/1149 […] - ETA: 0s - loss: 0.0746
 460/1149 [==========>…] - ETA: 0s - loss: 0.1158
```

```
 920/1149 [======================>…] - ETA: 0s - loss: 0.9743
1149/1149 [==============================] - 0s 109us/step - loss: 0.9963
Epoch 4/10

  20/1149 […] - ETA: 0s - loss: 0.6414
1060/1148 [==========================>…] - ETA: 0s - loss: 0.1178
 520/1149 [===========>…] - ETA: 0s - loss: 1.2028
1148/1148 [==============================] - 0s 98us/step - loss: 0.1184

 260/1149 [=====>…] - ETA: 0s - loss: 0.0969Epoch 7/10

  20/1148 […] - ETA: 0s - loss: 0.2156
 700/1149 [================>…] - ETA: 0s - loss: 0.1114
 560/1149 [============>…] - ETA: 0s - loss: 0.8345
 800/1149 [====================>…] - ETA: 0s - loss: 1.1470
 480/1149 [==========>…] - ETA: 0s - loss: 0.1156
 580/1148 [=============>…] - ETA: 0s - loss: 0.1164
 950/1149 [======================>…] - ETA: 0s - loss: 0.1166
1020/1149 [=========================>…] - ETA: 0s - loss: 0.8027
1149/1149 [==============================] - 0s 219us/step - loss: 0.1204

1120/1149 [============================>.] - ETA: 0s - loss: 1.1574Epoch 16/20

  10/1149 […] - ETA: 0s - loss: 0.0765
 700/1149 [================>…] - ETA: 0s - loss: 0.1304
1140/1148 [============================>.] - ETA: 0s - loss: 0.1104
1149/1149 [==============================] - 0s 105us/step - loss: 0.7933

1148/1148 [==============================] - 0s 94us/step - loss: 0.1102
Epoch 5/10

  20/1149 […] - ETA: 0s - loss: 0.3953Epoch 8/10

  20/1148 […] - ETA: 0s - loss: 0.1108
1149/1149 [==============================] - 1s 605us/step - loss: 1.1707
Epoch 2/10

  20/1149 […] - ETA: 0s - loss: 1.1933
 270/1149 [======>…] - ETA: 0s - loss: 0.0912
 920/1149 [======================>…] - ETA: 0s - loss: 0.1255
 560/1148 [============>…] - ETA: 0s - loss: 0.1114
 600/1149 [=============>…] - ETA: 0s - loss: 0.5872
 500/1149 [===========>…] - ETA: 0s - loss: 0.9292
1149/1149 [==============================] - 0s 221us/step - loss: 0.1177
Epoch 18/20

  10/1149 […] - ETA: 0s - loss: 0.1574
 530/1149 [===========>…] - ETA: 0s - loss: 0.0944
```

```
1040/1148 [==========================>…] - ETA: 0s - loss: 0.1058
1100/1149 [==========================>..] - ETA: 0s - loss: 0.5466Epoch 1/10

  20/1149 […] - ETA: 28s - loss: 0.9573
1149/1149 [=============================] - 0s 95us/step - loss: 0.5477
Epoch 6/10

  20/1149 […] - ETA: 0s - loss: 0.3599
 780/1149 [==================>…] - ETA: 0s - loss: 1.0166
1148/1148 [=============================] - 0s 103us/step - loss: 0.1047
Epoch 9/10

  20/1148 […] - ETA: 0s - loss: 0.0794
 280/1149 [======>…] - ETA: 0s - loss: 0.1366
 810/1149 [===================>…] - ETA: 0s - loss: 0.1089
 100/1149 [=>…] - ETA: 5s - loss: 1.4862
1149/1149 [=============================] - 0s 129us/step - loss: 1.1216
Epoch 3/10

  20/1149 […] - ETA: 0s - loss: 1.6127
 540/1149 [============>…] - ETA: 0s - loss: 0.3845
 500/1148 [============>…] - ETA: 0s - loss: 0.0960
 520/1149 [============>…] - ETA: 0s - loss: 0.1182
1060/1149 [=========================>…] - ETA: 0s - loss: 0.1169
 420/1149 [========>…] - ETA: 1s - loss: 1.1467
 400/1149 [========>…] - ETA: 0s - loss: 1.0862
1000/1149 [========================>…] - ETA: 0s - loss: 0.3633
1149/1149 [=============================] - 0s 198us/step - loss: 0.1196
Epoch 17/20

  10/1149 […] - ETA: 0s - loss: 0.0399
1040/1148 [==========================>…] - ETA: 0s - loss: 0.0999Epoch 1/10

  20/1149 […] - ETA: 28s - loss: 0.9753
1149/1149 [=============================] - 0s 104us/step - loss: 0.3447
Epoch 7/10

  20/1149 […] - ETA: 0s - loss: 0.1085
1148/1148 [=============================] - 0s 101us/step - loss: 0.1000
Epoch 10/10

  20/1148 […] - ETA: 0s - loss: 0.1119
 780/1149 [==================>…] - ETA: 0s - loss: 0.1223
 740/1149 [=================>…] - ETA: 0s - loss: 1.2033
 920/1149 [======================>…] - ETA: 0s - loss: 1.0466
 240/1149 [=====>…] - ETA: 0s - loss: 0.1011
1149/1149 [=============================] - 0s 106us/step - loss: 1.0206
Epoch 4/10
```

```
  20/1149 […] - ETA: 0s - loss: 0.1680
 540/1149 [=============>…] - ETA: 0s - loss: 0.2426
 420/1148 [=========>…] - ETA: 0s - loss: 0.0934
 200/1149 [====>…] - ETA: 2s - loss: 1.0380
 990/1149 [=======================>…] - ETA: 0s - loss: 0.1162
1120/1149 [============================>.] - ETA: 0s - loss: 1.1291
1149/1149 [=============================] - 1s 621us/step - loss: 1.1286
Epoch 2/10

  20/1149 […] - ETA: 0s - loss: 1.3485
 470/1149 [===========>…] - ETA: 0s - loss: 0.1302
1149/1149 [=============================] - 0s 209us/step - loss: 0.1164


 620/1149 [===============>…] - ETA: 0s - loss: 0.8918
1060/1149 [=========================>…] - ETA: 0s - loss: 0.2176Epoch 19/20

  10/1149 […] - ETA: 0s - loss: 0.0930
 960/1148 [=======================>…] - ETA: 0s - loss: 0.0944
 260/1149 [=====>…] - ETA: 2s - loss: 0.9696
1149/1149 [=============================] - 0s 102us/step - loss: 0.2154
Epoch 8/10

  20/1149 […] - ETA: 0s - loss: 0.0885
1148/1148 [=============================] - 0s 111us/step - loss: 0.0966


 750/1149 [=================>…] - ETA: 0s - loss: 0.1315
 400/1149 [=========>…] - ETA: 0s - loss: 1.2303
1149/1149 [=============================] - 0s 92us/step - loss: 0.8649


 260/1149 [=====>…] - ETA: 0s - loss: 0.0840Epoch 5/10

  20/1149 […] - ETA: 0s - loss: 0.8464
 400/1149 [========>…] - ETA: 1s - loss: 1.0030
 500/1149 [===========>…] - ETA: 0s - loss: 0.1477
 960/1149 [=======================>…] - ETA: 0s - loss: 0.1203
 660/1149 [================>…] - ETA: 0s - loss: 1.1426
 510/1149 [===========>…] - ETA: 0s - loss: 0.1049
 540/1149 [=============>…] - ETA: 0s - loss: 0.7619
 860/1149 [====================>…] - ETA: 0s - loss: 1.0362
1020/1149 [========================>…] - ETA: 0s - loss: 0.1622
1149/1149 [=============================] - 0s 213us/step - loss: 0.1179
Epoch 18/20

  10/1149 […] - ETA: 0s - loss: 0.1955
1149/1149 [=============================] - 0s 107us/step - loss: 0.1559
Epoch 9/10
```

```
  20/1149 […] - ETA: 0s - loss: 0.1655
1149/1149 [==============================] - 1s 662us/step - loss: 1.0930
Epoch 2/10

  20/1149 […] - ETA: 0s - loss: 0.7950
1140/1149 [=============================>.] - ETA: 0s - loss: 1.0622
1149/1149 [==============================] - 0s 144us/step - loss: 1.0632
Epoch 3/10

  20/1149 […] - ETA: 0s - loss: 0.9389
 770/1149 [===================>…] - ETA: 0s - loss: 0.1038
1120/1149 [=============================>.] - ETA: 0s - loss: 0.6731Epoch 1/15

  20/1148 […] - ETA: 21s - loss: 0.3471
1149/1149 [==============================] - 0s 94us/step - loss: 0.6768
Epoch 6/10

  20/1149 […] - ETA: 0s - loss: 0.5590
 260/1149 [=====>…] - ETA: 0s - loss: 0.1320
 520/1149 [============>…] - ETA: 0s - loss: 0.1378
 440/1149 [==========>…] - ETA: 0s - loss: 1.1544
 540/1149 [=============>…] - ETA: 0s - loss: 0.9055
 960/1149 [=======================>…] - ETA: 0s - loss: 0.1214
 180/1148 [===>…] - ETA: 2s - loss: 0.3760
 520/1149 [===========>…] - ETA: 0s - loss: 0.4616
 510/1149 [===========>…] - ETA: 0s - loss: 0.1231
1020/1149 [========================>…] - ETA: 0s - loss: 0.1423
 840/1149 [====================>…] - ETA: 0s - loss: 1.0805
1149/1149 [==============================] - 0s 222us/step - loss: 0.1162

1020/1149 [========================>…] - ETA: 0s - loss: 0.8914Epoch 20/20

  10/1149 […] - ETA: 0s - loss: 0.1244
1149/1149 [==============================] - 0s 110us/step - loss: 0.1387
Epoch 10/10

  20/1149 […] - ETA: 0s - loss: 0.0622
 960/1149 [========================>…] - ETA: 0s - loss: 0.5117
 320/1148 [=======>…] - ETA: 1s - loss: 0.3730
1149/1149 [==============================] - 0s 107us/step - loss: 0.9366
Epoch 4/10

  20/1149 […] - ETA: 0s - loss: 2.3317
 740/1149 [==================>…] - ETA: 0s - loss: 0.1153
1149/1149 [==============================] - 0s 134us/step - loss: 1.0415
Epoch 3/10

  20/1149 […] - ETA: 0s - loss: 0.8942
```

```
1149/1149 [==============================] - 0s 124us/step - loss: 0.4800
Epoch 7/10

  20/1149 […] - ETA: 0s - loss: 0.3855
 220/1149 [====>…] - ETA: 0s - loss: 0.1004
 520/1149 [============>…] - ETA: 0s - loss: 0.1253
 440/1148 [=========>…] - ETA: 0s - loss: 0.3622
 300/1149 [======>…] - ETA: 0s - loss: 0.9630
 990/1149 [=======================>…] - ETA: 0s - loss: 0.1205
 580/1149 [=============>…] - ETA: 0s - loss: 1.0245
 360/1149 [========>…] - ETA: 0s - loss: 0.4309
 480/1149 [==========>…] - ETA: 0s - loss: 0.1126
1040/1149 [==========================>…] - ETA: 0s - loss: 0.1334
1149/1149 [==============================] - 0s 209us/step - loss: 0.1170

 540/1148 [=============>…] - ETA: 0s - loss: 0.3720Epoch 19/20

  10/1149 […] - ETA: 0s - loss: 0.0380
1149/1149 [==============================] - 0s 102us/step - loss: 0.1312

 700/1149 [=================>…] - ETA: 0s - loss: 0.8033
1149/1149 [==============================] - 0s 91us/step - loss: 0.9261
Epoch 4/10

  20/1149 […] - ETA: 0s - loss: 0.8057
 740/1149 [==================>…] - ETA: 0s - loss: 0.3675
 750/1149 [==================>…] - ETA: 0s - loss: 0.1201
 720/1148 [==================>…] - ETA: 0s - loss: 0.3708
 250/1149 [=====>…] - ETA: 0s - loss: 0.0901
1149/1149 [==============================] - 0s 135us/step - loss: 0.8102
Epoch 5/10

  20/1149 […] - ETA: 0s - loss: 0.5586
1149/1149 [==============================] - 0s 127us/step - loss: 0.3335
Epoch 8/10

  20/1149 […] - ETA: 0s - loss: 0.1611
 540/1149 [=============>…] - ETA: 0s - loss: 0.9111
1020/1149 [=========================>…] - ETA: 0s - loss: 0.1158
1000/1148 [=========================>…] - ETA: 0s - loss: 0.3502
 510/1149 [===========>…] - ETA: 0s - loss: 0.1197
 540/1149 [=============>…] - ETA: 0s - loss: 0.8402
1149/1149 [==============================] - 0s 205us/step - loss: 0.1157

1148/1148 [==============================] - 1s 618us/step - loss: 0.3393

 520/1149 [============>…] - ETA: 0s - loss: 0.2363
1080/1149 [==========================>..] - ETA: 0s - loss: 0.7665Epoch 2/15
```

```
  20/1148 […] - ETA: 0s - loss: 0.2235
1149/1149 [==============================] - 0s 98us/step - loss: 0.7592
Epoch 5/10

  20/1149 […] - ETA: 0s - loss: 0.6477
 770/1149 [===================>…] - ETA: 0s - loss: 0.1280
1040/1149 [==========================>…] - ETA: 0s - loss: 0.7024
1149/1149 [==============================] - 0s 100us/step - loss: 0.7056
Epoch 6/10

  20/1149 […] - ETA: 0s - loss: 0.4370
 980/1149 [========================>…] - ETA: 0s - loss: 0.2305
 560/1148 [=============>…] - ETA: 0s - loss: 0.2444
 500/1149 [============>…] - ETA: 0s - loss: 0.5722
1149/1149 [==============================] - 0s 108us/step - loss: 0.2197
Epoch 9/10

  20/1149 […] - ETA: 0s - loss: 0.1270
1030/1149 [==========================>…] - ETA: 0s - loss: 0.1185
 500/1149 [============>…] - ETA: 0s - loss: 0.5900
1148/1148 [==============================] - 0s 100us/step - loss: 0.2319
Epoch 3/15

  20/1148 […] - ETA: 0s - loss: 0.1989
1149/1149 [==============================] - 0s 209us/step - loss: 0.1158
Epoch 20/20

  10/1149 […] - ETA: 0s - loss: 0.0653
1060/1149 [===========================>…] - ETA: 0s - loss: 0.5541
 520/1149 [===========>…] - ETA: 0s - loss: 0.1598
1149/1149 [==============================] - 0s 100us/step - loss: 0.5482
Epoch 6/10

  20/1149 […] - ETA: 0s - loss: 0.4783
 960/1149 [=======================>…] - ETA: 0s - loss: 0.5993
 500/1148 [============>…] - ETA: 0s - loss: 0.1699
 240/1149 [=====>…] - ETA: 0s - loss: 0.0867
1149/1149 [==============================] - 0s 111us/step - loss: 0.5995
Epoch 7/10

  20/1149 […] - ETA: 0s - loss: 0.5377
1000/1149 [========================>…] - ETA: 0s - loss: 0.1559
 440/1149 [=========>…] - ETA: 0s - loss: 0.3831
1149/1149 [==============================] - 0s 112us/step - loss: 0.1613
Epoch 10/10

  20/1149 […] - ETA: 0s - loss: 0.0655
```

```
 880/1148 [=====================>…] – ETA: 0s – loss: 0.1619
 430/1149 [=========>…] – ETA: 0s – loss: 0.1010
 440/1149 [=========>…] – ETA: 0s – loss: 0.4848
 800/1149 [==================>…] – ETA: 0s – loss: 0.3592
1148/1148 [=============================] – 0s 127us/step – loss: 0.1585


 400/1149 [========>…] – ETA: 0s – loss: 0.1389Epoch 4/15

  20/1148 […] – ETA: 0s – loss: 0.1388
 620/1149 [==============>…] – ETA: 0s – loss: 0.1066
 840/1149 [====================>…] – ETA: 0s – loss: 0.4960
1149/1149 [=============================] – 0s 132us/step – loss: 0.3572
Epoch 7/10

  20/1149 […] – ETA: 0s – loss: 0.3000
 800/1149 [===================>…] – ETA: 0s – loss: 0.1318
 380/1148 [=======>…] – ETA: 0s – loss: 0.1528
1149/1149 [=============================] – 0s 129us/step – loss: 0.4996
Epoch 8/10

  20/1149 […] – ETA: 0s – loss: 0.1876
 830/1149 [====================>…] – ETA: 0s – loss: 0.1211
 480/1149 [==========>…] – ETA: 0s – loss: 0.2436
1149/1149 [=============================] – 0s 128us/step – loss: 0.1394


 700/1148 [=================>…] – ETA: 0s – loss: 0.1400
 460/1149 [==========>…] – ETA: 0s – loss: 0.3598
1050/1149 [==========================>…] – ETA: 0s – loss: 0.1192
1000/1149 [========================>…] – ETA: 0s – loss: 0.2514
1149/1149 [=============================] – 0s 241us/step – loss: 0.1162


1149/1149 [=============================] – 0s 101us/step – loss: 0.2366
Epoch 8/10

  20/1149 […] – ETA: 0s – loss: 0.2079
1148/1148 [=============================] – 0s 132us/step – loss: 0.1271
Epoch 5/15


  20/1148 […] – ETA: 0s – loss: 0.1203
1000/1149 [========================>…] – ETA: 0s – loss: 0.4130
1149/1149 [=============================] – 0s 103us/step – loss: 0.4074
Epoch 9/10


  20/1149 […] – ETA: 0s – loss: 0.2553
 580/1149 [==============>…] – ETA: 0s – loss: 0.1900
 600/1148 [==============>…] – ETA: 0s – loss: 0.1062
 600/1149 [==============>…] – ETA: 0s – loss: 0.3337
1120/1149 [===========================>.] – ETA: 0s – loss: 0.1745
```

```
1149/1149 [==============================] - 0s 92us/step - loss: 0.1777
Epoch 9/10

  20/1149 […] - ETA: 0s - loss: 0.0942
1140/1148 [===========================>.] - ETA: 0s - loss: 0.1137
1148/1148 [==============================] - 0s 92us/step - loss: 0.1138
Epoch 6/15

  20/1148 […] - ETA: 0s - loss: 0.1176
1149/1149 [==============================] - 0s 91us/step - loss: 0.3224
Epoch 10/10

  20/1149 […] - ETA: 0s - loss: 0.1229
 540/1149 [============>…] - ETA: 0s - loss: 0.1395
 480/1148 [==========>…] - ETA: 0s - loss: 0.1001
 400/1149 [========>…] - ETA: 0s - loss: 0.2398Epoch 1/15

  20/1149 […] - ETA: 18s - loss: 1.0810
 960/1149 [========================>…] - ETA: 0s - loss: 0.1334
 840/1148 [====================>…] - ETA: 0s - loss: 0.1019
1149/1149 [==============================] - 0s 112us/step - loss: 0.1545
Epoch 10/10

  20/1149 […] - ETA: 0s - loss: 0.0525Epoch 1/15

  20/1149 […] - ETA: 19s - loss: 1.0462
 240/1149 [=====>…] - ETA: 1s - loss: 1.3033
 800/1149 [===================>…] - ETA: 0s - loss: 0.2513
1148/1148 [==============================] - 0s 122us/step - loss: 0.1065
Epoch 7/15

  20/1148 […] - ETA: 0s - loss: 0.0625
 460/1149 [==========>…] - ETA: 0s - loss: 0.1336
 260/1149 [=====>…] - ETA: 1s - loss: 1.1174
1149/1149 [==============================] - 0s 128us/step - loss: 0.2489

 640/1149 [===============>…] - ETA: 0s - loss: 1.0547
 420/1148 [========>…] - ETA: 0s - loss: 0.0913
 640/1149 [===============>…] - ETA: 0s - loss: 0.1409
 540/1148 [============>…] - ETA: 0s - loss: 0.0929
 760/1149 [==================>…] - ETA: 0s - loss: 1.1150
 400/1149 [========>…] - ETA: 0s - loss: 1.1563
 640/1148 [===============>…] - ETA: 0s - loss: 0.0934
 820/1149 [===================>…] - ETA: 0s - loss: 1.1097
 740/1149 [==================>…] - ETA: 0s - loss: 0.1444
 440/1149 [=========>…] - ETA: 0s - loss: 1.1650
 760/1148 [==================>…] - ETA: 0s - loss: 0.0956
 860/1149 [====================>…] - ETA: 0s - loss: 0.1390
```

```
 920/1149 [=======================>…] - ETA: 0s - loss: 1.1634
 540/1149 [============>…] - ETA: 0s - loss: 1.1137
1149/1149 [==============================] - 1s 553us/step - loss: 1.1829
Epoch 2/15

  20/1149 […] - ETA: 0s - loss: 0.5231
1149/1149 [==============================] - 0s 237us/step - loss: 0.1445

1140/1148 [============================>.] - ETA: 0s - loss: 0.1014
1148/1148 [==============================] - 0s 228us/step - loss: 0.1011
Epoch 8/15

  20/1148 […] - ETA: 0s - loss: 0.1187
 960/1149 [========================>…] - ETA: 0s - loss: 1.0629
1149/1149 [==============================] - 1s 571us/step - loss: 1.1222
Epoch 2/15

  20/1149 […] - ETA: 0s - loss: 0.7635
 600/1149 [=============>…] - ETA: 0s - loss: 1.1692
 400/1148 [=========>…] - ETA: 0s - loss: 0.0909Epoch 1/15

  20/1149 […] - ETA: 29s - loss: 0.8757
 600/1149 [=============>…] - ETA: 0s - loss: 1.1557
1149/1149 [==============================] - 0s 87us/step - loss: 1.1284
Epoch 3/15

  20/1149 […] - ETA: 0s - loss: 1.2126
 800/1148 [==================>…] - ETA: 0s - loss: 0.0936
 260/1149 [=====>…] - ETA: 1s - loss: 1.1324
1100/1149 [==========================>..] - ETA: 0s - loss: 1.0602
1149/1149 [==============================] - 0s 93us/step - loss: 1.0579

 500/1149 [===========>…] - ETA: 0s - loss: 0.9666Epoch 3/15

  20/1149 […] - ETA: 0s - loss: 0.8429
1148/1148 [==============================] - 0s 131us/step - loss: 0.0972
Epoch 9/15

  20/1148 […] - ETA: 0s - loss: 0.0952
 760/1149 [==================>…] - ETA: 0s - loss: 1.1577
 500/1149 [===========>…] - ETA: 0s - loss: 0.8853
 960/1149 [========================>…] - ETA: 0s - loss: 0.9451Epoch 1/15

  20/1149 […] - ETA: 30s - loss: 1.3442
 500/1148 [===========>…] - ETA: 0s - loss: 0.0963
1149/1149 [==============================] - 1s 588us/step - loss: 1.1673
Epoch 2/15
```

```
  20/1149 […] - ETA: 0s - loss: 1.3743
1149/1149 [==============================] - 0s 108us/step - loss: 0.9821
Epoch 4/15

  20/1149 […] - ETA: 0s - loss: 0.5269
 940/1149 [======================>…] - ETA: 0s - loss: 0.9693
 280/1149 [======>…] - ETA: 1s - loss: 1.4712
 920/1148 [=======================>…] - ETA: 0s - loss: 0.0979
 580/1149 [==============>…] - ETA: 0s - loss: 1.0966
 460/1149 [==========>…] - ETA: 0s - loss: 0.8576Epoch 1/20

  20/1148 […] - ETA: 28s - loss: 0.3264
1149/1149 [==============================] - 0s 116us/step - loss: 0.9072
Epoch 4/15

  20/1149 […] - ETA: 0s - loss: 0.6612
1148/1148 [==============================] - 0s 119us/step - loss: 0.0949
Epoch 10/15

  20/1148 […] - ETA: 0s - loss: 0.0910
 680/1149 [===============>…] - ETA: 0s - loss: 1.2500
1040/1149 [==========================>…] - ETA: 0s - loss: 1.1151
 880/1149 [=====================>…] - ETA: 0s - loss: 0.7961
1149/1149 [==============================] - 0s 102us/step - loss: 1.1029
Epoch 3/15

  20/1149 […] - ETA: 0s - loss: 0.6201
 200/1148 [====>…] - ETA: 2s - loss: 0.3755
 420/1149 [=========>…] - ETA: 0s - loss: 0.7327
 440/1148 [==========>…] - ETA: 0s - loss: 0.0841
1149/1149 [==============================] - 0s 115us/step - loss: 0.7737
Epoch 5/15

  20/1149 […] - ETA: 0s - loss: 0.4424
1149/1149 [==============================] - 1s 600us/step - loss: 1.0891
Epoch 2/15

  20/1149 […] - ETA: 0s - loss: 0.8539
 480/1149 [===========>…] - ETA: 0s - loss: 0.9020
 500/1148 [===========>…] - ETA: 0s - loss: 0.3551
 880/1149 [=====================>…] - ETA: 0s - loss: 0.7164
 860/1148 [=====================>…] - ETA: 0s - loss: 0.0950
 400/1149 [=========>…] - ETA: 0s - loss: 0.6495
 580/1149 [==============>…] - ETA: 0s - loss: 1.0605
1149/1149 [==============================] - 0s 123us/step - loss: 0.6913

1148/1148 [==============================] - 0s 116us/step - loss: 0.0929
Epoch 5/15
```

```
  20/1149 […] - ETA: 0s - loss: 0.6779Epoch 11/15

  20/1148 […] - ETA: 0s - loss: 0.1029
 920/1149 [=====================>…] - ETA: 0s - loss: 0.9973
 840/1148 [===================>…] - ETA: 0s - loss: 0.3575
 840/1149 [===================>…] - ETA: 0s - loss: 0.5825
1149/1149 [============================] - 0s 114us/step - loss: 0.9893
Epoch 4/15

  20/1149 […] - ETA: 0s - loss: 0.4017
1060/1149 [=========================>…] - ETA: 0s - loss: 1.0183
 500/1149 [===========>…] - ETA: 0s - loss: 0.5220
1149/1149 [============================] - 0s 103us/step - loss: 1.0262

 480/1148 [==========>…] - ETA: 0s - loss: 0.0839Epoch 3/15

  20/1149 […] - ETA: 0s - loss: 1.0805
 960/1148 [=======================>…] - ETA: 0s - loss: 0.3566
1149/1149 [============================] - 0s 118us/step - loss: 0.5232
Epoch 6/15

  20/1149 […] - ETA: 0s - loss: 0.2959Epoch 1/20

  20/1149 […] - ETA: 16s - loss: 0.8630
1148/1148 [============================] - 1s 646us/step - loss: 0.3592
Epoch 2/20

  20/1148 […] - ETA: 0s - loss: 0.4610
 400/1149 [========>…] - ETA: 0s - loss: 0.9384
1020/1149 [=========================>…] - ETA: 0s - loss: 0.4913
 980/1148 [=======================>…] - ETA: 0s - loss: 0.0864
 480/1149 [==========>…] - ETA: 0s - loss: 1.0194
 520/1149 [===========>…] - ETA: 0s - loss: 0.3329
1149/1149 [============================] - 0s 104us/step - loss: 0.4756
Epoch 6/15

  20/1149 […] - ETA: 0s - loss: 0.6018
1148/1148 [============================] - 0s 111us/step - loss: 0.0912
Epoch 12/15

  20/1148 […] - ETA: 0s - loss: 0.3212
 140/1149 [==>…] - ETA: 2s - loss: 1.0545
 400/1148 [========>…] - ETA: 0s - loss: 0.3282
 940/1149 [======================>…] - ETA: 0s - loss: 0.8877
 860/1149 [=====================>…] - ETA: 0s - loss: 0.9562
 980/1149 [=======================>…] - ETA: 0s - loss: 0.2921
1149/1149 [============================] - 0s 115us/step - loss: 0.8706
```

```
 500/1149 [===========>…] - ETA: 0s - loss: 0.3285Epoch 5/15

  20/1149 […] - ETA: 0s - loss: 1.5847
 480/1148 [==========>…] - ETA: 0s - loss: 0.0870
 340/1149 [=======>…] - ETA: 0s - loss: 1.1348Epoch 1/20

  20/1149 […] - ETA: 17s - loss: 0.6297
1149/1149 [==============================] - 0s 111us/step - loss: 0.2911

 820/1148 [====================>…] - ETA: 0s - loss: 0.3274
1149/1149 [==============================] - 0s 122us/step - loss: 0.9106
Epoch 7/15

  20/1149 […] - ETA: 0s - loss: 0.3811Epoch 4/15

  20/1149 […] - ETA: 0s - loss: 1.1737
 900/1149 [=====================>…] - ETA: 0s - loss: 0.3160
 480/1149 [==========>…] - ETA: 0s - loss: 0.8335
1148/1148 [==============================] - 0s 120us/step - loss: 0.3230
Epoch 3/20

  20/1148 […] - ETA: 0s - loss: 0.2158
 920/1148 [======================>…] - ETA: 0s - loss: 0.0882
 660/1149 [===============>…] - ETA: 0s - loss: 1.2774
 260/1149 [=====>…] - ETA: 1s - loss: 0.9520
 380/1149 [========>…] - ETA: 0s - loss: 0.7787
 480/1149 [==========>…] - ETA: 0s - loss: 0.1918
1149/1149 [==============================] - 0s 124us/step - loss: 0.2927

1148/1148 [==============================] - 0s 116us/step - loss: 0.0895
Epoch 7/15

  20/1149 […] - ETA: 0s - loss: 0.2897Epoch 13/15

  20/1148 […] - ETA: 0s - loss: 0.0829
 960/1149 [========================>…] - ETA: 0s - loss: 0.7488
 440/1148 [=========>…] - ETA: 0s - loss: 0.2922
 980/1149 [========================>…] - ETA: 0s - loss: 1.1631
 440/1149 [=========>…] - ETA: 0s - loss: 1.0131
 840/1149 [====================>…] - ETA: 0s - loss: 0.7554
 980/1149 [========================>…] - ETA: 0s - loss: 0.1766
1149/1149 [==============================] - 0s 112us/step - loss: 0.7855
Epoch 6/15

  20/1149 […] - ETA: 0s - loss: 0.5892
1149/1149 [==============================] - 1s 453us/step - loss: 1.1804
Epoch 2/20
```

```
  20/1149 […] - ETA: 0s - loss: 0.9938
 500/1148 [============>…] - ETA: 0s - loss: 0.0800
 460/1149 [==========>…] - ETA: 0s - loss: 0.1893
1149/1149 [==============================] - 0s 111us/step - loss: 0.1727
Epoch 8/15

  20/1149 […] - ETA: 0s - loss: 0.0820
 940/1148 [======================>…] - ETA: 0s - loss: 0.3006
1149/1149 [==============================] - 0s 119us/step - loss: 0.7373
Epoch 5/15

  20/1149 […] - ETA: 0s - loss: 0.6007
 580/1149 [=============>…] - ETA: 0s - loss: 1.1132
 560/1149 [=============>…] - ETA: 0s - loss: 0.7685
1148/1148 [==============================] - 0s 112us/step - loss: 0.2887
Epoch 4/20

  20/1148 […] - ETA: 0s - loss: 0.2305
 400/1149 [=========>…] - ETA: 0s - loss: 1.2217
1000/1148 [=========================>…] - ETA: 0s - loss: 0.0869
 880/1149 [=====================>…] - ETA: 0s - loss: 0.2004
 400/1149 [=========>…] - ETA: 0s - loss: 0.1335
 460/1149 [==========>…] - ETA: 0s - loss: 0.5491
1148/1148 [==============================] - 0s 106us/step - loss: 0.0882
Epoch 14/15

  20/1148 […] - ETA: 0s - loss: 0.0418
 820/1149 [====================>…] - ETA: 0s - loss: 1.1811
1149/1149 [==============================] - 0s 123us/step - loss: 0.2018
Epoch 8/15

  20/1149 […] - ETA: 0s - loss: 0.1627
1000/1149 [=========================>…] - ETA: 0s - loss: 0.7488
 560/1148 [=============>…] - ETA: 0s - loss: 0.2421
 760/1149 [==================>…] - ETA: 0s - loss: 1.2137
1149/1149 [==============================] - 0s 106us/step - loss: 0.7260
Epoch 7/15

  20/1149 […] - ETA: 0s - loss: 0.7996
 860/1149 [=====================>…] - ETA: 0s - loss: 0.1435
 980/1149 [=======================>…] - ETA: 0s - loss: 0.5657
 520/1148 [============>…] - ETA: 0s - loss: 0.0766
1060/1149 [==========================>…] - ETA: 0s - loss: 1.1580
1149/1149 [==============================] - 0s 103us/step - loss: 0.5356
Epoch 6/15

  20/1149 […] - ETA: 0s - loss: 0.2653
```

```
 440/1149 [=========>…] - ETA: 0s - loss: 0.1510
1060/1148 [=========================>…] - ETA: 0s - loss: 0.2566
1149/1149 [==============================] - 0s 121us/step - loss: 0.1418
Epoch 9/15

  20/1149 […] - ETA: 0s - loss: 0.6906
1149/1149 [==============================] - 0s 137us/step - loss: 1.1188

1149/1149 [==============================] - 1s 514us/step - loss: 1.1750
Epoch 3/20

  20/1149 […] - ETA: 0s - loss: 1.1499Epoch 2/20

  20/1149 […] - ETA: 0s - loss: 0.4923
1148/1148 [==============================] - 0s 100us/step - loss: 0.2531
Epoch 5/20

  20/1148 […] - ETA: 0s - loss: 0.2527
 500/1149 [===========>…] - ETA: 0s - loss: 0.6618
 960/1148 [========================>…] - ETA: 0s - loss: 0.0872
 460/1149 [==========>…] - ETA: 0s - loss: 0.3732
 880/1149 [=====================>…] - ETA: 0s - loss: 0.1689
 460/1149 [==========>…] - ETA: 0s - loss: 0.1377
1148/1148 [==============================] - 0s 112us/step - loss: 0.0868
Epoch 15/15

  20/1148 […] - ETA: 0s - loss: 0.0799
 300/1149 [======>…] - ETA: 0s - loss: 1.0601
 220/1149 [====>…] - ETA: 0s - loss: 1.0369
 560/1148 [=============>…] - ETA: 0s - loss: 0.2252
 980/1149 [========================>…] - ETA: 0s - loss: 0.6556
1149/1149 [==============================] - 0s 121us/step - loss: 0.1660

1149/1149 [==============================] - 0s 108us/step - loss: 0.6715
Epoch 8/15

  20/1149 […] - ETA: 0s - loss: 0.8631Epoch 9/15

  20/1149 […] - ETA: 0s - loss: 0.0899
 840/1149 [====================>…] - ETA: 0s - loss: 0.3645
 880/1149 [=====================>…] - ETA: 0s - loss: 0.1325
 500/1148 [============>…] - ETA: 0s - loss: 0.0802
 560/1149 [=============>…] - ETA: 0s - loss: 1.0483
 320/1149 [=======>…] - ETA: 0s - loss: 1.0371
1000/1148 [========================>…] - ETA: 0s - loss: 0.2220
1149/1149 [==============================] - 0s 120us/step - loss: 0.3519
Epoch 7/15
```

```
   20/1149 […] - ETA: 0s - loss: 0.3595
1148/1148 [==============================] - 0s 109us/step - loss: 0.2179
Epoch 6/20

   20/1148 […] - ETA: 0s - loss: 0.2186
 440/1149 [=========>…] - ETA: 0s - loss: 0.7017
 460/1149 [==========>…] - ETA: 0s - loss: 0.1440
1149/1149 [==============================] - 0s 123us/step - loss: 0.1356
Epoch 10/15

   20/1149 […] - ETA: 0s - loss: 0.0930
 920/1149 [=====================>…] - ETA: 0s - loss: 1.0645
 860/1148 [====================>…] - ETA: 0s - loss: 0.0883
 820/1149 [===================>…] - ETA: 0s - loss: 1.1239
 420/1149 [========>…] - ETA: 0s - loss: 0.2971
 400/1148 [========>…] - ETA: 0s - loss: 0.1862
 900/1149 [====================>…] - ETA: 0s - loss: 0.1464
 840/1149 [===================>…] - ETA: 0s - loss: 0.5969
 420/1149 [========>…] - ETA: 0s - loss: 0.1330
1149/1149 [==============================] - 0s 168us/step - loss: 1.0041
Epoch 4/20

   20/1149 […] - ETA: 0s - loss: 1.9566
1149/1149 [==============================] - 0s 170us/step - loss: 1.1440

1148/1148 [==============================] - 0s 126us/step - loss: 0.0861
Epoch 3/20

   20/1149 […] - ETA: 0s - loss: 1.5676
1149/1149 [==============================] - 0s 119us/step - loss: 0.1515
Epoch 10/15

   20/1149 […] - ETA: 0s - loss: 0.0846
 760/1149 [==================>…] - ETA: 0s - loss: 0.2756
 800/1148 [==================>…] - ETA: 0s - loss: 0.1854
1140/1149 [============================>.] - ETA: 0s - loss: 0.6219
1149/1149 [==============================] - 0s 142us/step - loss: 0.6207

 780/1149 [==================>…] - ETA: 0s - loss: 0.1353
 380/1149 [=======>…] - ETA: 0s - loss: 0.9410Epoch 9/15

   20/1149 […] - ETA: 0s - loss: 0.5156
 440/1149 [=========>…] - ETA: 0s - loss: 1.0410
 380/1149 [=======>…] - ETA: 0s - loss: 0.1471
1140/1149 [============================>.] - ETA: 0s - loss: 0.2366
1149/1149 [==============================] - 0s 123us/step - loss: 0.1329

1149/1149 [==============================] - 0s 135us/step - loss: 0.2364
```

```
Epoch 8/15

  20/1149 […] - ETA: 0s - loss: 0.3963Epoch 11/15

  20/1149 […] - ETA: 0s - loss: 0.0721
1148/1148 [==============================] - 0s 136us/step - loss: 0.1856
Epoch 7/20

  20/1148 […] - ETA: 0s - loss: 0.1569
 440/1149 [=========>…] - ETA: 0s - loss: 0.6880
 900/1149 [=====================>…] - ETA: 0s - loss: 0.9470
 780/1149 [==================>…] - ETA: 0s - loss: 1.0952
 740/1149 [=================>…] - ETA: 0s - loss: 0.1377
1149/1149 [==============================] - 0s 121us/step - loss: 0.8797

 500/1149 [===========>…] - ETA: 0s - loss: 0.2019
 480/1149 [==========>…] - ETA: 0s - loss: 0.1077Epoch 5/20

  20/1149 […] - ETA: 0s - loss: 0.5491
 420/1148 [========>…] - ETA: 0s - loss: 0.1642
 840/1149 [===================>…] - ETA: 0s - loss: 0.5905
 980/1149 [=======================>…] - ETA: 0s - loss: 1.0818
1080/1149 [==========================>..] - ETA: 0s - loss: 0.1447
1149/1149 [==============================] - 0s 143us/step - loss: 0.1454

 920/1149 [======================>…] - ETA: 0s - loss: 0.1899Epoch 11/15

  20/1149 […] - ETA: 0s - loss: 0.1659
 920/1149 [======================>…] - ETA: 0s - loss: 0.1288
 380/1149 [=======>…] - ETA: 0s - loss: 0.8085
 640/1148 [==============>…] - ETA: 0s - loss: 0.1567
1149/1149 [==============================] - 0s 174us/step - loss: 1.0723

1149/1149 [==============================] - 0s 132us/step - loss: 0.5718
Epoch 4/20

  20/1149 […] - ETA: 0s - loss: 0.5005Epoch 10/15

  20/1149 […] - ETA: 0s - loss: 2.0138
1040/1149 [=========================>…] - ETA: 0s - loss: 0.1258
 160/1149 [===>…] - ETA: 0s - loss: 0.2071
 480/1149 [==========>…] - ETA: 0s - loss: 0.7764
1060/1149 [=========================>…] - ETA: 0s - loss: 0.1813
 760/1148 [==================>…] - ETA: 0s - loss: 0.1597
 120/1149 [==>…] - ETA: 0s - loss: 0.6878
 140/1149 [==>…] - ETA: 0s - loss: 1.0950
1149/1149 [==============================] - 0s 175us/step - loss: 0.1779
Epoch 9/15
```

```
  20/1149 […] - ETA: 0s - loss: 0.2727
1149/1149 [==============================] - 0s 182us/step - loss: 0.1314
Epoch 12/15

  20/1149 […] - ETA: 0s - loss: 0.0598
 320/1149 [=======>…] - ETA: 0s - loss: 0.1728
 540/1149 [============>…] - ETA: 0s - loss: 0.7604
 920/1148 [======================>…] - ETA: 0s - loss: 0.1579
 260/1149 [=====>…] - ETA: 0s - loss: 0.6372
 340/1149 [=======>…] - ETA: 0s - loss: 0.8863
 200/1149 [====>…] - ETA: 0s - loss: 0.1338
 180/1149 [===>…] - ETA: 0s - loss: 0.1146
 700/1149 [=================>…] - ETA: 0s - loss: 0.7539
 500/1149 [============>…] - ETA: 0s - loss: 0.1499
1120/1148 [============================>.] - ETA: 0s - loss: 0.1601
 400/1149 [=========>…] - ETA: 0s - loss: 0.6257
 520/1149 [============>…] - ETA: 0s - loss: 0.8731
1148/1148 [==============================] - 0s 259us/step - loss: 0.1595
Epoch 8/20

  20/1148 […] - ETA: 0s - loss: 0.0418
 320/1149 [=======>…] - ETA: 0s - loss: 0.1470
 580/1149 [==============>…] - ETA: 0s - loss: 0.1417
 300/1149 [======>…] - ETA: 0s - loss: 0.1407
 800/1149 [===================>…] - ETA: 0s - loss: 0.8020
 540/1149 [============>…] - ETA: 0s - loss: 0.5929
 680/1149 [================>…] - ETA: 0s - loss: 0.9167
 900/1149 [======================>…] - ETA: 0s - loss: 0.7772
 460/1149 [==========>…] - ETA: 0s - loss: 0.1542
 140/1148 [==>…] - ETA: 0s - loss: 0.1154
 420/1149 [=========>…] - ETA: 0s - loss: 0.1342
 700/1149 [=================>…] - ETA: 0s - loss: 0.1360
 620/1149 [==============>…] - ETA: 0s - loss: 0.5776
 800/1149 [===================>…] - ETA: 0s - loss: 0.9742
 600/1149 [==============>…] - ETA: 0s - loss: 0.1578
 340/1148 [=======>…] - ETA: 0s - loss: 0.1547
1140/1149 [=============================>.] - ETA: 0s - loss: 0.7803
 660/1149 [================>…] - ETA: 0s - loss: 0.1339
 900/1149 [=====================>…] - ETA: 0s - loss: 0.1329
1149/1149 [==============================] - 0s 335us/step - loss: 0.7786
Epoch 6/20

  20/1149 […] - ETA: 0s - loss: 1.0046
 880/1149 [====================>…] - ETA: 0s - loss: 0.5651
1120/1149 [============================>.] - ETA: 0s - loss: 0.9561
1149/1149 [==============================] - 0s 323us/step - loss: 0.1422
```

```
1149/1149 [==============================] - 0s 310us/step - loss: 0.9539
Epoch 5/20

  20/1149 […] - ETA: 0s - loss: 0.8720Epoch 12/15

  20/1149 […] - ETA: 0s - loss: 0.1374
 720/1148 [=================>…] - ETA: 0s - loss: 0.1441
 980/1149 [========================>…] - ETA: 0s - loss: 0.1518
1040/1149 [==========================>…] - ETA: 0s - loss: 0.1340
 360/1149 [========>…] - ETA: 0s - loss: 0.6706
1080/1149 [==========================>..] - ETA: 0s - loss: 0.5422
1149/1149 [==============================] - 0s 255us/step - loss: 0.1296

1149/1149 [==============================] - 0s 263us/step - loss: 0.1575
Epoch 10/15

  20/1149 […] - ETA: 0s - loss: 0.0809Epoch 13/15

  20/1149 […] - ETA: 0s - loss: 0.1425
 460/1149 [===========>…] - ETA: 0s - loss: 0.1275
1149/1149 [==============================] - 0s 358us/step - loss: 0.5247

1148/1148 [==============================] - 0s 193us/step - loss: 0.1405
Epoch 9/20

  20/1148 […] - ETA: 0s - loss: 0.1267Epoch 11/15

  20/1149 […] - ETA: 0s - loss: 0.2738
 240/1149 [=====>…] - ETA: 0s - loss: 0.8525
 740/1149 [=================>…] - ETA: 0s - loss: 0.6813
 440/1149 [==========>…] - ETA: 0s - loss: 0.1278
 300/1149 [======>…] - ETA: 0s - loss: 0.1685
 940/1149 [=======================>…] - ETA: 0s - loss: 0.1366
 480/1148 [===========>…] - ETA: 0s - loss: 0.1210
 220/1149 [====>…] - ETA: 0s - loss: 0.5051
 460/1149 [===========>…] - ETA: 0s - loss: 0.7738
1100/1149 [==========================>..] - ETA: 0s - loss: 0.6810
1149/1149 [==============================] - 0s 112us/step - loss: 0.1409

1149/1149 [==============================] - 0s 142us/step - loss: 0.6855
Epoch 13/15

  20/1149 […] - ETA: 0s - loss: 0.1020Epoch 7/20

  20/1149 […] - ETA: 0s - loss: 1.9001
 620/1149 [===============>…] - ETA: 0s - loss: 0.1462
 860/1149 [=====================>…] - ETA: 0s - loss: 0.1249
 800/1148 [===================>…] - ETA: 0s - loss: 0.1257
```

```
 760/1149 [==================>…] – ETA: 0s – loss: 0.4809
1040/1149 [==========================>…] – ETA: 0s – loss: 0.7797
1149/1149 [==============================] – 0s 156us/step – loss: 0.7909
Epoch 6/20

  20/1149 […] – ETA: 0s – loss: 0.7060
 300/1149 [======>…] – ETA: 0s – loss: 0.1287
 360/1149 [========>…] – ETA: 0s – loss: 0.6225
 940/1149 [=======================>…] – ETA: 0s – loss: 0.1598
1149/1149 [==============================] – 0s 136us/step – loss: 0.1287
Epoch 14/15

  20/1149 […] – ETA: 0s – loss: 0.0642
1149/1149 [==============================] – 0s 119us/step – loss: 0.4795
Epoch 12/15

  20/1149 […] – ETA: 0s – loss: 0.4873
1060/1148 [==========================>…] – ETA: 0s – loss: 0.1288
1149/1149 [==============================] – 0s 161us/step – loss: 0.1510
Epoch 11/15

  20/1149 […] – ETA: 0s – loss: 0.1628
1148/1148 [==============================] – 0s 147us/step – loss: 0.1267

 560/1149 [=============>…] – ETA: 0s – loss: 0.6332Epoch 10/20

  20/1148 […] – ETA: 0s – loss: 0.1823
 600/1149 [==============>…] – ETA: 0s – loss: 0.1557
 680/1149 [================>…] – ETA: 0s – loss: 0.5858
 340/1149 [=======>…] – ETA: 0s – loss: 0.1077
 640/1149 [==============>…] – ETA: 0s – loss: 0.4655
 460/1149 [===========>…] – ETA: 0s – loss: 0.1579
 880/1149 [====================>…] – ETA: 0s – loss: 0.5969
 460/1148 [===========>…] – ETA: 0s – loss: 0.1048
1040/1149 [==========================>…] – ETA: 0s – loss: 0.1413
1100/1149 [===========================>..] – ETA: 0s – loss: 0.5860
 780/1149 [==================>…] – ETA: 0s – loss: 0.1161
1149/1149 [==============================] – 0s 143us/step – loss: 0.5913
Epoch 8/20

  20/1149 […] – ETA: 0s – loss: 0.7021
1149/1149 [==============================] – 0s 147us/step – loss: 0.1385


1020/1149 [=========================>…] – ETA: 0s – loss: 0.4632Epoch 14/15

  20/1149 […] – ETA: 0s – loss: 0.1150
1149/1149 [==============================] – 0s 110us/step – loss: 0.4400
```

368

```
 880/1149 [=====================>…] - ETA: 0s - loss: 0.1430Epoch 13/15

  20/1149 […] - ETA: 0s - loss: 1.1335
1000/1148 [=========================>…] - ETA: 0s - loss: 0.1139
1040/1149 [=========================>…] - ETA: 0s - loss: 0.6167
1149/1149 [==============================] - 0s 135us/step - loss: 0.1277
Epoch 15/15

  20/1149 […] - ETA: 0s - loss: 0.1031
1148/1148 [==============================] - 0s 105us/step - loss: 0.1162

 480/1149 [==========>…] - ETA: 0s - loss: 0.5719Epoch 11/20

  20/1148 […] - ETA: 0s - loss: 0.1186
 500/1149 [===========>…] - ETA: 0s - loss: 0.1425
1149/1149 [==============================] - 0s 119us/step - loss: 0.1476
Epoch 12/15

  20/1149 […] - ETA: 0s - loss: 0.1090
1149/1149 [==============================] - 0s 163us/step - loss: 0.5993
Epoch 7/20

  20/1149 […] - ETA: 0s - loss: 0.3081
 380/1149 [========>…] - ETA: 0s - loss: 0.4870
 440/1149 [=========>…] - ETA: 0s - loss: 0.1317
 940/1149 [======================>…] - ETA: 0s - loss: 0.5300
 420/1148 [========>…] - ETA: 0s - loss: 0.1104
 860/1149 [=====================>…] - ETA: 0s - loss: 0.1462
 420/1149 [========>…] - ETA: 0s - loss: 0.1564
 600/1149 [=============>…] - ETA: 0s - loss: 0.4701
 780/1149 [==================>…] - ETA: 0s - loss: 0.4717
1149/1149 [==============================] - 0s 119us/step - loss: 0.5012
Epoch 9/20

  20/1149 […] - ETA: 0s - loss: 0.2648
 840/1149 [====================>…] - ETA: 0s - loss: 0.1295
1149/1149 [==============================] - 0s 133us/step - loss: 0.1369

 800/1148 [==================>…] - ETA: 0s - loss: 0.1108Epoch 15/15

  20/1149 […] - ETA: 0s - loss: 0.1163
 740/1149 [=================>…] - ETA: 0s - loss: 0.1601
1100/1149 [==========================>..] - ETA: 0s - loss: 0.4235
1149/1149 [==============================] - 0s 95us/step - loss: 0.4203

1120/1149 [===========================>.] - ETA: 0s - loss: 0.4043Epoch 8/20

  20/1149 […] - ETA: 0s - loss: 0.2417
```

```
1149/1149 [==============================] - 0s 143us/step - loss: 0.4026

 400/1149 [=========>…] - ETA: 0s - loss: 0.4225Epoch 14/15

  20/1149 […] - ETA: 0s - loss: 0.4913
1149/1149 [==============================] - 0s 132us/step - loss: 0.1267

1148/1148 [==============================] - 0s 133us/step - loss: 0.1084

 400/1149 [=========>…] - ETA: 0s - loss: 0.1507Epoch 12/20

  20/1148 […] - ETA: 0s - loss: 0.0706
1149/1149 [==============================] - 0s 135us/step - loss: 0.1446
Epoch 13/15

  20/1149 […] - ETA: 0s - loss: 0.1465
 340/1149 [=======>…] - ETA: 0s - loss: 0.3419
 640/1149 [==============>…] - ETA: 0s - loss: 0.4297
 440/1149 [==========>…] - ETA: 0s - loss: 0.3017
 820/1149 [====================>…] - ETA: 0s - loss: 0.1336
 460/1148 [==========>…] - ETA: 0s - loss: 0.0983
 520/1149 [============>…] - ETA: 0s - loss: 0.1419
 640/1149 [==============>…] - ETA: 0s - loss: 0.3083
1149/1149 [==============================] - 0s 119us/step - loss: 0.1350

 940/1149 [======================>…] - ETA: 0s - loss: 0.4295
 940/1149 [======================>…] - ETA: 0s - loss: 0.3615
 880/1148 [=====================>…] - ETA: 0s - loss: 0.1017
 920/1149 [======================>…] - ETA: 0s - loss: 0.1391
1149/1149 [==============================] - 0s 116us/step - loss: 0.3669
Epoch 15/15

  20/1149 […] - ETA: 0s - loss: 0.5022
1149/1149 [==============================] - 0s 166us/step - loss: 0.4155
Epoch 10/20

  20/1149 […] - ETA: 0s - loss: 0.3082
1040/1149 [==========================>…] - ETA: 0s - loss: 0.2900
1149/1149 [==============================] - 0s 144us/step - loss: 0.2816

1148/1148 [==============================] - 0s 124us/step - loss: 0.1017
Epoch 9/20

  20/1149 […] - ETA: 0s - loss: 0.1927Epoch 13/20

  20/1148 […] - ETA: 0s - loss: 0.0605
1149/1149 [==============================] - 0s 129us/step - loss: 0.1429
Epoch 14/15
```

```
  20/1149 […] – ETA: 0s – loss: 0.1353
 360/1149 [========>…] – ETA: 0s – loss: 0.3998
 480/1149 [==========>…] – ETA: 0s – loss: 0.2968
 540/1149 [============>…] – ETA: 0s – loss: 0.2286
 480/1148 [==========>…] – ETA: 0s – loss: 0.0946
 440/1149 [=========>…] – ETA: 0s – loss: 0.1209
 720/1149 [================>…] – ETA: 0s – loss: 0.3561
1040/1149 [========================>…] – ETA: 0s – loss: 0.3311
1149/1149 [=============================] – 0s 104us/step – loss: 0.3406


 980/1149 [=======================>…] – ETA: 0s – loss: 0.2171Epoch 11/20

  20/1149 […] – ETA: 0s – loss: 0.3172
 860/1148 [====================>…] – ETA: 0s – loss: 0.0916
1149/1149 [=============================] – 0s 107us/step – loss: 0.2041


 840/1149 [===================>…] – ETA: 0s – loss: 0.1321Epoch 10/20

  20/1149 […] – ETA: 0s – loss: 0.0929
1149/1149 [=============================] – 0s 132us/step – loss: 0.3361


1148/1148 [=============================] – 0s 122us/step – loss: 0.0975
Epoch 14/20

  20/1148 […] – ETA: 0s – loss: 0.0738
 460/1149 [==========>…] – ETA: 0s – loss: 0.2649
1149/1149 [=============================] – 0s 129us/step – loss: 0.1401
Epoch 15/15

  20/1149 […] – ETA: 0s – loss: 0.1503
 460/1149 [==========>…] – ETA: 0s – loss: 0.1652
 520/1148 [===========>…] – ETA: 0s – loss: 0.0921
 980/1149 [=======================>…] – ETA: 0s – loss: 0.2972
 620/1149 [==============>…] – ETA: 0s – loss: 0.1666
 920/1149 [======================>…] – ETA: 0s – loss: 0.1854
1149/1149 [=============================] – 0s 116us/step – loss: 0.2859
Epoch 12/20

  20/1149 […] – ETA: 0s – loss: 0.2422
 900/1148 [=====================>…] – ETA: 0s – loss: 0.0965
 860/1149 [====================>…] – ETA: 0s – loss: 0.1514
1120/1149 [==========================>.] – ETA: 0s – loss: 0.1785
1149/1149 [=============================] – 0s 146us/step – loss: 0.1777
Epoch 11/20

  20/1149 […] – ETA: 0s – loss: 0.3933
1000/1148 [========================>…] – ETA: 0s – loss: 0.0958
```

```
 140/1149 [==>…] – ETA: 0s – loss: 0.3158
 960/1149 [=======================>…] – ETA: 0s – loss: 0.1447
1148/1148 [=============================] – 0s 180us/step – loss: 0.0943
Epoch 15/20

  20/1148 […] – ETA: 0s – loss: 0.0674
1149/1149 [=============================] – 0s 164us/step – loss: 0.1385

 300/1149 [======>…] – ETA: 0s – loss: 0.1860
 440/1149 [=========>…] – ETA: 0s – loss: 0.2851
 460/1148 [==========>…] – ETA: 0s – loss: 0.0889
 840/1149 [====================>…] – ETA: 0s – loss: 0.2695
 680/1149 [================>…] – ETA: 0s – loss: 0.1764
 720/1148 [================>…] – ETA: 0s – loss: 0.0878
1000/1149 [=========================>…] – ETA: 0s – loss: 0.1687
1100/1149 [===========================>..] – ETA: 0s – loss: 0.2513
1149/1149 [=============================] – 0s 206us/step – loss: 0.2492
Epoch 13/20

  20/1149 […] – ETA: 0s – loss: 0.1390
1149/1149 [=============================] – 0s 167us/step – loss: 0.1691
Epoch 12/20

  20/1149 […] – ETA: 0s – loss: 0.1135
1148/1148 [=============================] – 0s 138us/step – loss: 0.0917
Epoch 16/20

  20/1148 […] – ETA: 0s – loss: 0.0509
 400/1149 [=========>…] – ETA: 0s – loss: 0.2149Epoch 1/20

  20/1149 […] – ETA: 41s – loss: 1.3671
 440/1149 [=========>…] – ETA: 0s – loss: 0.1577
 460/1148 [==========>…] – ETA: 0s – loss: 0.0855
 780/1149 [==================>…] – ETA: 0s – loss: 0.2304
 900/1149 [=====================>…] – ETA: 0s – loss: 0.1628
 440/1149 [=========>…] – ETA: 1s – loss: 1.1228
 900/1148 [=====================>…] – ETA: 0s – loss: 0.0921
1149/1149 [=============================] – 0s 129us/step – loss: 0.1632

1100/1149 [==========================>..] – ETA: 0s – loss: 0.2217Epoch 13/20

  20/1149 […] – ETA: 0s – loss: 0.0782
 800/1149 [==================>…] – ETA: 0s – loss: 1.0877
1149/1149 [=============================] – 0s 146us/step – loss: 0.2208
Epoch 14/20

  20/1149 […] – ETA: 0s – loss: 0.5041
1148/1148 [=============================] – 0s 126us/step – loss: 0.0902
```

```
Epoch 17/20

  20/1148 […] - ETA: 0s - loss: 0.0248
 340/1149 [=======>…] - ETA: 0s - loss: 0.1694
 260/1148 [=====>…] - ETA: 0s - loss: 0.0872
 400/1149 [========>…] - ETA: 0s - loss: 0.1676
1000/1149 [=========================>…] - ETA: 0s - loss: 1.0898
 600/1149 [=============>…] - ETA: 0s - loss: 0.1586
1140/1149 [============================>.] - ETA: 0s - loss: 1.1251
 540/1149 [============>…] - ETA: 0s - loss: 0.1950
 480/1148 [===========>…] - ETA: 0s - loss: 0.0935
1149/1149 [=============================] - 1s 844us/step - loss: 1.1239
Epoch 2/20

  20/1149 […] - ETA: 0s - loss: 0.9752
 820/1149 [====================>…] - ETA: 0s - loss: 0.1511
 760/1149 [==================>…] - ETA: 0s - loss: 0.2061
 740/1148 [==================>…] - ETA: 0s - loss: 0.0854
 180/1149 [===>…] - ETA: 0s - loss: 0.9436
1000/1149 [=========================>…] - ETA: 0s - loss: 0.1630
 960/1149 [=======================>…] - ETA: 0s - loss: 0.2037
 920/1148 [======================>…] - ETA: 0s - loss: 0.0865
 340/1149 [=======>…] - ETA: 0s - loss: 1.1452
1120/1149 [===========================>.] - ETA: 0s - loss: 0.1612
1100/1149 [==========================>..] - ETA: 0s - loss: 0.2046
1149/1149 [=============================] - 0s 262us/step - loss: 0.1592


1060/1148 [=========================>…] - ETA: 0s - loss: 0.0881
 440/1149 [==========>…] - ETA: 0s - loss: 1.2468Epoch 14/20

  20/1149 […] - ETA: 0s - loss: 0.1091
1149/1149 [=============================] - 0s 261us/step - loss: 0.2012
Epoch 15/20

  20/1149 […] - ETA: 0s - loss: 0.2079
1148/1148 [=============================] - 0s 270us/step - loss: 0.0890
Epoch 18/20

  20/1148 […] - ETA: 0s - loss: 0.1220
 600/1149 [=============>…] - ETA: 0s - loss: 1.2091
 220/1149 [====>…] - ETA: 0s - loss: 0.1224
 280/1149 [======>…] - ETA: 0s - loss: 0.2016
 300/1148 [======>…] - ETA: 0s - loss: 0.0898
 920/1149 [======================>…] - ETA: 0s - loss: 1.1122
 620/1149 [==============>…] - ETA: 0s - loss: 0.1560
 700/1149 [=================>…] - ETA: 0s - loss: 0.1843
 640/1148 [==============>…] - ETA: 0s - loss: 0.0856
1149/1149 [=============================] - 0s 257us/step - loss: 1.0560
```

```
Epoch 3/20

  20/1149 […] - ETA: 0s - loss: 0.9244
 980/1149 [======================>…] - ETA: 0s - loss: 0.1538
1020/1149 [========================>…] - ETA: 0s - loss: 0.1905
 900/1148 [=====================>…] - ETA: 0s - loss: 0.0852
 280/1149 [======>…] - ETA: 0s - loss: 0.7478
1100/1149 [==========================>..] - ETA: 0s - loss: 0.1524Epoch 1/20

  20/1149 […] - ETA: 37s - loss: 0.2498
1100/1149 [==========================>..] - ETA: 0s - loss: 0.1897Epoch 1/5

  30/1148 […] - ETA: 23s - loss: 0.4381
1149/1149 [============================] - 0s 207us/step - loss: 0.1557


1149/1149 [============================] - 0s 200us/step - loss: 0.1882
Epoch 16/20

  20/1149 […] - ETA: 0s - loss: 0.1047Epoch 15/20

  20/1149 […] - ETA: 0s - loss: 0.0387
 940/1148 [======================>…] - ETA: 0s - loss: 0.0860
 580/1149 [=============>…] - ETA: 0s - loss: 0.9425
 320/1149 [=======>…] - ETA: 1s - loss: 1.0840
 540/1148 [============>…] - ETA: 0s - loss: 0.3685
 460/1149 [==========>…] - ETA: 0s - loss: 0.1722
 460/1149 [==========>…] - ETA: 0s - loss: 0.1342
1060/1148 [=========================>…] - ETA: 0s - loss: 0.0857
1148/1148 [============================] - 0s 245us/step - loss: 0.0880
Epoch 19/20

  20/1148 […] - ETA: 0s - loss: 0.0355
 980/1149 [======================>…] - ETA: 0s - loss: 0.8655
 640/1149 [==============>…] - ETA: 0s - loss: 1.0868
1110/1148 [===========================>.] - ETA: 0s - loss: 0.3606
1148/1148 [============================] - 1s 645us/step - loss: 0.3619


1149/1149 [============================] - 0s 175us/step - loss: 0.8976
Epoch 4/20

  20/1149 […] - ETA: 0s - loss: 0.3398Epoch 2/5

  30/1148 […] - ETA: 0s - loss: 0.4291
 920/1149 [======================>…] - ETA: 0s - loss: 0.1850
 860/1149 [====================>…] - ETA: 0s - loss: 0.1472Epoch 1/5

  30/1149 […] - ETA: 25s - loss: 1.1374
 420/1148 [========>…] - ETA: 0s - loss: 0.0893
```

```
1149/1149 [==============================] - 0s 117us/step - loss: 0.1784
Epoch 17/20

  20/1149 [...] - ETA: 0s - loss: 0.1017
1149/1149 [==============================] - 0s 123us/step - loss: 0.1536
Epoch 16/20

  20/1149 [...] - ETA: 0s - loss: 0.2418
1000/1149 [=========================>...] - ETA: 0s - loss: 1.0981
 520/1149 [===========>...] - ETA: 0s - loss: 0.7395
 900/1148 [=====================>...] - ETA: 0s - loss: 0.3318
 300/1149 [======>...] - ETA: 2s - loss: 1.1810
1149/1149 [==============================] - 1s 740us/step - loss: 1.0906


1148/1148 [==============================] - 0s 65us/step - loss: 0.3216

 860/1148 [=====================>...] - ETA: 0s - loss: 0.0879Epoch 3/5


  30/1148 [...] - ETA: 0s - loss: 0.2641Epoch 2/20


  20/1149 [...] - ETA: 0s - loss: 0.8013Epoch 1/5


  30/1149 [...] - ETA: 17s - loss: 0.4333
 460/1149 [===========>...] - ETA: 0s - loss: 0.1714
 500/1149 [===========>...] - ETA: 0s - loss: 0.1713
 940/1149 [=======================>...] - ETA: 0s - loss: 0.7109
1148/1148 [==============================] - 0s 121us/step - loss: 0.0872
Epoch 20/20

  20/1148 [...] - ETA: 0s - loss: 0.0821
 720/1149 [=================>...] - ETA: 0s - loss: 1.2483
 720/1148 [=================>...] - ETA: 0s - loss: 0.2789
 500/1149 [===========>...] - ETA: 0s - loss: 1.0305
 360/1149 [=======>...] - ETA: 1s - loss: 1.2086
1149/1149 [==============================] - 0s 117us/step - loss: 0.6726
Epoch 5/20

  20/1149 [...] - ETA: 0s - loss: 0.6840
 920/1149 [======================>...] - ETA: 0s - loss: 0.1755
 920/1149 [======================>...] - ETA: 0s - loss: 0.1609
1149/1149 [==============================] - 1s 729us/step - loss: 1.1843


 460/1148 [==========>...] - ETA: 0s - loss: 0.0964Epoch 2/5


  30/1149 [...] - ETA: 0s - loss: 0.8382
1149/1149 [==============================] - 0s 116us/step - loss: 0.1701
Epoch 18/20
```

```
   20/1149 […] - ETA: 0s - loss: 0.1230
1148/1148 [==============================] - 0s 86us/step - loss: 0.2731


1149/1149 [==============================] - 0s 117us/step - loss: 0.1506
Epoch 4/5

  30/1148 […] - ETA: 0s - loss: 0.2941Epoch 17/20

  20/1149 […] - ETA: 0s - loss: 0.1149
 940/1149 [=======================>…] - ETA: 0s - loss: 1.0660
 660/1149 [================>…] - ETA: 0s - loss: 1.1944
 440/1149 [==========>…] - ETA: 0s - loss: 0.5679
1149/1149 [==============================] - 0s 115us/step - loss: 1.0460
Epoch 3/20

  20/1149 […] - ETA: 0s - loss: 1.2220
 940/1148 [=======================>…] - ETA: 0s - loss: 0.0887
 630/1149 [===============>…] - ETA: 0s - loss: 1.1059
 460/1149 [==========>…] - ETA: 0s - loss: 0.1651
 630/1148 [===============>…] - ETA: 0s - loss: 0.2559
 500/1149 [===========>…] - ETA: 0s - loss: 0.1155
1020/1149 [=========================>…] - ETA: 0s - loss: 1.1266
1148/1148 [==============================] - 0s 110us/step - loss: 0.0865

 860/1149 [=====================>…] - ETA: 0s - loss: 0.4930
1149/1149 [==============================] - 1s 574us/step - loss: 1.1727
Epoch 2/5

  30/1149 […] - ETA: 0s - loss: 1.1726
 500/1149 [===========>…] - ETA: 0s - loss: 1.0363
1148/1148 [==============================] - 0s 78us/step - loss: 0.2265
Epoch 5/5

  30/1148 […] - ETA: 0s - loss: 0.1999
1140/1149 [============================>.] - ETA: 0s - loss: 1.1425
1149/1149 [==============================] - 0s 92us/step - loss: 1.1515


1149/1149 [==============================] - 0s 120us/step - loss: 0.4399
Epoch 3/5

  30/1149 […] - ETA: 0s - loss: 0.7301Epoch 6/20

  20/1149 […] - ETA: 0s - loss: 0.2274
 860/1149 [=====================>…] - ETA: 0s - loss: 0.1663
 920/1149 [=======================>…] - ETA: 0s - loss: 0.1492
1149/1149 [==============================] - 0s 112us/step - loss: 0.1489


1149/1149 [==============================] - 0s 119us/step - loss: 0.1640
```

```
Epoch 19/20

  20/1149 […] - ETA: 0s - loss: 0.4239Epoch 18/20

  20/1149 […] - ETA: 0s - loss: 0.1893
 300/1149 [======>…] - ETA: 0s - loss: 1.0318
 980/1149 [=======================>…] - ETA: 0s - loss: 0.9993
 780/1148 [==================>…] - ETA: 0s - loss: 0.1921
 720/1149 [=================>…] - ETA: 0s - loss: 1.0852
 480/1149 [==========>…] - ETA: 0s - loss: 0.3246
1149/1149 [=============================] - 0s 110us/step - loss: 0.9591
Epoch 4/20

  20/1149 […] - ETA: 0s - loss: 0.8020
1148/1148 [=============================] - 0s 71us/step - loss: 0.1895

 480/1149 [==========>…] - ETA: 0s - loss: 0.1394
 420/1149 [=========>…] - ETA: 0s - loss: 0.1739
 990/1149 [=======================>…] - ETA: 0s - loss: 1.1218
1149/1149 [=============================] - 0s 86us/step - loss: 1.0849
Epoch 4/5

  30/1149 […] - ETA: 0s - loss: 1.1175
1149/1149 [=============================] - 0s 101us/step - loss: 1.1339

1000/1149 [========================>…] - ETA: 0s - loss: 0.2766Epoch 3/5

  30/1149 […] - ETA: 0s - loss: 1.1578
 500/1149 [===========>…] - ETA: 0s - loss: 0.9625
1149/1149 [=============================] - 0s 108us/step - loss: 0.2600
Epoch 7/20

  20/1149 […] - ETA: 0s - loss: 0.3374
 960/1149 [=======================>…] - ETA: 0s - loss: 0.1465
 900/1149 [=====================>…] - ETA: 0s - loss: 0.1695
 660/1149 [================>…] - ETA: 0s - loss: 0.9998
 810/1149 [===================>…] - ETA: 0s - loss: 1.0684
1149/1149 [=============================] - 0s 110us/step - loss: 0.1469
Epoch 19/20

  20/1149 […] - ETA: 0s - loss: 0.0678
1149/1149 [=============================] - 0s 115us/step - loss: 0.1590

 960/1149 [=======================>…] - ETA: 0s - loss: 0.8443Epoch 20/20

  20/1149 […] - ETA: 0s - loss: 0.0683
 440/1149 [=========>…] - ETA: 0s - loss: 0.1958
1149/1149 [=============================] - 0s 65us/step - loss: 1.0565
```

```
Epoch 4/5

  30/1149 […] - ETA: 0s - loss: 1.1744
1149/1149 [==============================] - 0s 119us/step - loss: 0.8232


1149/1149 [==============================] - 0s 91us/step - loss: 0.9846
Epoch 5/20

  20/1149 […] - ETA: 0s - loss: 0.4898Epoch 5/5

  30/1149 […] - ETA: 0s - loss: 0.7284
 440/1149 [=========>…] - ETA: 0s - loss: 0.1713
 340/1149 [=======>…] - ETA: 0s - loss: 0.1695
 570/1149 [============>…] - ETA: 0s - loss: 0.9909
 740/1149 [=================>…] - ETA: 0s - loss: 0.1797
 280/1149 [======>…] - ETA: 0s - loss: 0.6306
 900/1149 [=====================>…] - ETA: 0s - loss: 0.8740
 940/1149 [======================>…] - ETA: 0s - loss: 0.1401
 700/1149 [================>…] - ETA: 0s - loss: 0.1635
1149/1149 [==============================] - 0s 64us/step - loss: 0.8726


1080/1149 [==========================>..] - ETA: 0s - loss: 0.9362
1020/1149 [=========================>…] - ETA: 0s - loss: 0.1815
1149/1149 [==============================] - 0s 113us/step - loss: 0.1452
Epoch 20/20

  20/1149 […] - ETA: 0s - loss: 0.0801
1149/1149 [==============================] - 0s 99us/step - loss: 0.9473
Epoch 5/5

  30/1149 […] - ETA: 0s - loss: 0.3474
1149/1149 [==============================] - 0s 156us/step - loss: 0.1798


 620/1149 [==============>…] - ETA: 0s - loss: 0.6927Epoch 8/20

  20/1149 […] - ETA: 0s - loss: 0.0860
1100/1149 [===========================>..] - ETA: 0s - loss: 0.1504
1149/1149 [==============================] - 0s 142us/step - loss: 0.1558

 480/1149 [==========>…] - ETA: 0s - loss: 0.1498
 690/1149 [=================>…] - ETA: 0s - loss: 0.7837
1040/1149 [=========================>…] - ETA: 0s - loss: 0.6301
 460/1149 [==========>…] - ETA: 0s - loss: 0.1780
1149/1149 [==============================] - 0s 157us/step - loss: 0.6472
Epoch 6/20

  20/1149 […] - ETA: 0s - loss: 0.6013
 760/1149 [=================>…] - ETA: 0s - loss: 0.1551
```

```
1020/1149 [=========================>…] - ETA: 0s - loss: 0.8363
 780/1149 [===================>…] - ETA: 0s - loss: 0.1730
1149/1149 [==============================] - 0s 117us/step - loss: 0.8259


 300/1149 [======>…] - ETA: 0s - loss: 0.5537
1000/1149 [========================>…] - ETA: 0s - loss: 0.1488
1060/1149 [==========================>…] - ETA: 0s - loss: 0.1603
1149/1149 [==============================] - 0s 155us/step - loss: 0.1435


1149/1149 [==============================] - 0s 152us/step - loss: 0.1555
Epoch 9/20

  20/1149 […] - ETA: 0s - loss: 0.1212
 640/1149 [===============>…] - ETA: 0s - loss: 0.4977
1120/1149 [=============================>.] - ETA: 0s - loss: 0.4875
 420/1149 [=========>…] - ETA: 0s - loss: 0.1102
1149/1149 [==============================] - 0s 139us/step - loss: 0.4845
Epoch 7/20

  20/1149 […] - ETA: 0s - loss: 0.3181
 940/1149 [=======================>…] - ETA: 0s - loss: 0.1459
 500/1149 [============>…] - ETA: 0s - loss: 0.4153
1149/1149 [==============================] - 0s 122us/step - loss: 0.1443
Epoch 10/20

  20/1149 […] - ETA: 0s - loss: 0.0667
 860/1149 [=====================>…] - ETA: 0s - loss: 0.3810
 500/1149 [============>…] - ETA: 0s - loss: 0.1366
1149/1149 [==============================] - 0s 121us/step - loss: 0.3590
Epoch 8/20

  20/1149 […] - ETA: 0s - loss: 0.1949
 980/1149 [========================>…] - ETA: 0s - loss: 0.1370
 420/1149 [=========>…] - ETA: 0s - loss: 0.2866
1149/1149 [==============================] - 0s 113us/step - loss: 0.1387
Epoch 11/20

  20/1149 […] - ETA: 0s - loss: 0.1177
 760/1149 [==================>…] - ETA: 0s - loss: 0.2785
 320/1149 [=======>…] - ETA: 0s - loss: 0.1570
1080/1149 [===========================>..] - ETA: 0s - loss: 0.2682
1149/1149 [==============================] - 0s 150us/step - loss: 0.2620
Epoch 9/20

  20/1149 […] - ETA: 0s - loss: 0.1970
 580/1149 [==============>…] - ETA: 0s - loss: 0.1411
 280/1149 [======>…] - ETA: 0s - loss: 0.2428
 820/1149 [====================>…] - ETA: 0s - loss: 0.1309Epoch 1/10
```

```
  30/1148 […] - ETA: 10s - loss: 0.4377
 580/1149 [==============>…] - ETA: 0s - loss: 0.2334
1149/1149 [==============================] - 0s 184us/step - loss: 0.1346
Epoch 12/20

  20/1149 […] - ETA: 0s - loss: 0.1628Epoch 1/10

  30/1149 […] - ETA: 11s - loss: 0.9009Epoch 1/10

  30/1149 […] - ETA: 10s - loss: 0.9999Epoch 1/5

  30/1149 […] - ETA: 10s - loss: 1.1512
 390/1148 [=========>…] - ETA: 0s - loss: 0.3788 Epoch 1/10

  30/1149 […] - ETA: 9s - loss: 1.1240
 940/1149 [=======================>…] - ETA: 0s - loss: 0.2240
 400/1149 [=========>…] - ETA: 0s - loss: 0.1436
 480/1149 [===========>…] - ETA: 0s - loss: 1.0556
 900/1149 [======================>…] - ETA: 0s - loss: 1.1878
 570/1149 [=============>…] - ETA: 0s - loss: 1.1717
1080/1148 [===========================>..] - ETA: 0s - loss: 0.3596
1148/1148 [==============================] - 0s 350us/step - loss: 0.3594

1149/1149 [==============================] - 0s 167us/step - loss: 0.2118
Epoch 10/20

  20/1149 […] - ETA: 0s - loss: 0.1631Epoch 2/10

  30/1148 […] - ETA: 0s - loss: 0.4874
1149/1149 [==============================] - 0s 297us/step - loss: 1.1757
Epoch 2/10

  30/1149 […] - ETA: 0s - loss: 0.5321Epoch 1/5

  30/1149 […] - ETA: 10s - loss: 1.2928
 300/1149 [======>…] - ETA: 0s - loss: 1.0109
 740/1149 [==================>…] - ETA: 0s - loss: 0.1352
 960/1149 [========================>…] - ETA: 0s - loss: 1.1620
 990/1149 [========================>…] - ETA: 0s - loss: 1.1426
 840/1148 [====================>…] - ETA: 0s - loss: 0.3232
 460/1149 [===========>…] - ETA: 0s - loss: 0.1900
 690/1149 [=================>…] - ETA: 0s - loss: 1.1932
1149/1149 [==============================] - 0s 370us/step - loss: 1.1780

1149/1149 [==============================] - 0s 340us/step - loss: 1.1302
Epoch 2/10
```

```
   30/1149 […] - ETA: 0s - loss: 1.0763Epoch 2/5

   30/1149 […] - ETA: 0s - loss: 1.2348
  690/1149 [================>…] - ETA: 0s - loss: 1.0873
  270/1149 [======>…] - ETA: 1s - loss: 1.5520
 1100/1149 [===========================>..] - ETA: 0s - loss: 0.1317
 1148/1148 [=============================] - 0s 68us/step - loss: 0.3039
Epoch 3/10

   30/1148 […] - ETA: 0s - loss: 0.2440
 1149/1149 [=============================] - 0s 145us/step - loss: 0.1310
Epoch 13/20

   20/1149 […] - ETA: 0s - loss: 0.0858
  880/1149 [====================>…] - ETA: 0s - loss: 0.1772
 1149/1149 [=============================] - 0s 89us/step - loss: 1.1571
Epoch 3/10

   30/1149 […] - ETA: 0s - loss: 0.9554
  600/1149 [=============>…] - ETA: 0s - loss: 1.1397
  510/1149 [===========>…] - ETA: 0s - loss: 1.1820
 1050/1149 [==========================>…] - ETA: 0s - loss: 1.1150
  600/1149 [=============>…] - ETA: 0s - loss: 1.1527
  810/1148 [===================>…] - ETA: 0s - loss: 0.2487
  400/1149 [=========>…] - ETA: 0s - loss: 0.1408
 1149/1149 [=============================] - 0s 122us/step - loss: 0.1871

 1149/1149 [=============================] - 0s 381us/step - loss: 1.1277
Epoch 11/20

   20/1149 […] - ETA: 0s - loss: 0.0762Epoch 2/10

   30/1149 […] - ETA: 0s - loss: 1.0456
 1148/1148 [=============================] - 0s 72us/step - loss: 0.2420

  600/1149 [=============>…] - ETA: 0s - loss: 1.1396
 1149/1149 [=============================] - 0s 90us/step - loss: 1.1343
Epoch 4/10

   30/1148 […] - ETA: 0s - loss: 0.2087
 1140/1149 [==========================>.] - ETA: 0s - loss: 1.1047Epoch 3/10

   30/1149 […] - ETA: 0s - loss: 1.2061
 1149/1149 [=============================] - 0s 96us/step - loss: 1.0996
Epoch 3/5

   30/1149 […] - ETA: 0s - loss: 0.9160
  930/1149 [======================>…] - ETA: 0s - loss: 1.1195
```

```
 820/1149 [====================>…] - ETA: 0s - loss: 0.1365
 440/1149 [=========>…] - ETA: 0s - loss: 0.1776
 810/1149 [====================>…] - ETA: 0s - loss: 1.1434
1149/1149 [==============================] - 0s 423us/step - loss: 1.0935
Epoch 2/5

  30/1149 […] - ETA: 0s - loss: 1.1757
1110/1149 [===========================>..] - ETA: 0s - loss: 1.1103
 570/1148 [============>…] - ETA: 0s - loss: 0.2134
 660/1149 [===============>…] - ETA: 0s - loss: 1.0226
1149/1149 [==============================] - 0s 99us/step - loss: 1.1236

1149/1149 [==============================] - 0s 70us/step - loss: 1.1008
Epoch 4/10

  30/1149 […] - ETA: 0s - loss: 1.0811Epoch 3/10

  30/1149 […] - ETA: 0s - loss: 0.7343
 390/1149 [========>…] - ETA: 0s - loss: 0.9237
1149/1149 [==============================] - 0s 129us/step - loss: 0.1289
Epoch 14/20

  20/1149 […] - ETA: 0s - loss: 0.0697
 920/1149 [======================>…] - ETA: 0s - loss: 0.1737
1149/1149 [==============================] - 0s 74us/step - loss: 1.0505
Epoch 4/10

  30/1149 […] - ETA: 0s - loss: 1.0658
 420/1149 [=========>…] - ETA: 0s - loss: 1.1645
1080/1148 [==========================>..] - ETA: 0s - loss: 0.1992
1148/1148 [==============================] - 0s 95us/step - loss: 0.1969
Epoch 5/10

  30/1148 […] - ETA: 0s - loss: 0.1781
1149/1149 [==============================] - 0s 117us/step - loss: 0.1739

 690/1149 [================>…] - ETA: 0s - loss: 1.0364
 690/1149 [================>…] - ETA: 0s - loss: 1.0478Epoch 12/20

  20/1149 […] - ETA: 0s - loss: 0.1439
 780/1149 [==================>…] - ETA: 0s - loss: 0.9940
 420/1149 [=========>…] - ETA: 0s - loss: 0.1333
 570/1149 [============>…] - ETA: 0s - loss: 0.9428
1149/1149 [==============================] - 0s 115us/step - loss: 1.0360
Epoch 4/5

  30/1149 […] - ETA: 0s - loss: 0.2953
 930/1149 [======================>…] - ETA: 0s - loss: 1.1082
```

```
 690/1148 [=================>…] - ETA: 0s - loss: 0.1707
1050/1149 [==========================>…] - ETA: 0s - loss: 1.0744
1140/1149 [=============================>.] - ETA: 0s - loss: 1.0698
 480/1149 [===========>…] - ETA: 0s - loss: 0.1844
1149/1149 [==============================] - 0s 95us/step - loss: 1.0698
Epoch 5/10

  30/1149 […] - ETA: 0s - loss: 1.8533
 860/1149 [=====================>…] - ETA: 0s - loss: 0.1303
1149/1149 [==============================] - 0s 103us/step - loss: 1.0483
Epoch 4/10

  30/1149 […] - ETA: 0s - loss: 0.3827
1149/1149 [==============================] - 0s 117us/step - loss: 1.0514
Epoch 3/5

  30/1149 […] - ETA: 0s - loss: 0.5173
1080/1149 [===========================>..] - ETA: 0s - loss: 0.9337
1148/1148 [==============================] - 0s 75us/step - loss: 0.1715

 870/1149 [=====================>…] - ETA: 0s - loss: 0.9817Epoch 6/10

  30/1148 […] - ETA: 0s - loss: 0.1072
1149/1149 [==============================] - 0s 99us/step - loss: 0.9318
Epoch 5/10

  30/1149 […] - ETA: 0s - loss: 1.1774
1149/1149 [==============================] - 0s 121us/step - loss: 0.1268
Epoch 15/20

  20/1149 […] - ETA: 0s - loss: 0.1049
1149/1149 [==============================] - 0s 62us/step - loss: 0.9362
Epoch 5/5

  30/1149 […] - ETA: 0s - loss: 1.1178
 980/1149 [========================>…] - ETA: 0s - loss: 0.1663
 510/1149 [============>…] - ETA: 0s - loss: 1.0062
 450/1149 [=========>…] - ETA: 0s - loss: 0.8591
 600/1149 [==============>…] - ETA: 0s - loss: 0.8288
1149/1149 [==============================] - 0s 110us/step - loss: 0.1646
Epoch 13/20

  20/1149 […] - ETA: 0s - loss: 0.2031
 570/1148 [============>…] - ETA: 0s - loss: 0.1535
 630/1149 [==============>…] - ETA: 0s - loss: 0.8015
 500/1149 [============>…] - ETA: 0s - loss: 0.1278
 480/1149 [===========>…] - ETA: 0s - loss: 0.8681
1140/1149 [===========================>.] - ETA: 0s - loss: 0.9970
```

```
1149/1149 [==============================] - 0s 95us/step - loss: 1.0015
Epoch 6/10

  30/1149 […] - ETA: 0s - loss: 0.5696
1080/1149 [==========================>..] - ETA: 0s - loss: 0.9712
1149/1149 [==============================] - 0s 91us/step - loss: 0.9661
Epoch 4/5

  30/1149 […] - ETA: 0s - loss: 0.5268
1149/1149 [==============================] - 0s 76us/step - loss: 0.7761
Epoch 6/10

  30/1149 […] - ETA: 0s - loss: 0.8026
1149/1149 [==============================] - 0s 99us/step - loss: 0.9661
Epoch 5/10

  30/1149 […] - ETA: 0s - loss: 1.5032
 440/1149 [=========>…] - ETA: 0s - loss: 0.1735
 990/1148 [========================>…] - ETA: 0s - loss: 0.1478
 960/1149 [========================>…] - ETA: 0s - loss: 0.1238
 900/1149 [=====================>…] - ETA: 0s - loss: 0.7951
1148/1148 [==============================] - 0s 109us/step - loss: 0.1529
Epoch 7/10

  30/1148 […] - ETA: 0s - loss: 0.1344
 750/1149 [=================>…] - ETA: 0s - loss: 0.9275
1149/1149 [==============================] - 0s 110us/step - loss: 0.1265
Epoch 16/20

  20/1149 […] - ETA: 0s - loss: 0.5759
 630/1149 [==============>…] - ETA: 0s - loss: 0.6484
 840/1149 [====================>…] - ETA: 0s - loss: 0.1595
 720/1149 [=================>…] - ETA: 0s - loss: 0.9122
 570/1149 [============>…] - ETA: 0s - loss: 0.9229
1140/1149 [============================>.] - ETA: 0s - loss: 0.7931
1149/1149 [==============================] - 0s 136us/step - loss: 0.7957

 300/1148 [======>…] - ETA: 0s - loss: 0.1468
1149/1149 [==============================] - 0s 95us/step - loss: 0.9315
Epoch 7/10

  30/1149 […] - ETA: 0s - loss: 1.0465
1149/1149 [==============================] - 0s 92us/step - loss: 0.8506

 340/1149 [======>…] - ETA: 0s - loss: 0.1374
1149/1149 [==============================] - 0s 135us/step - loss: 0.1560
Epoch 5/5
```

```
   30/1149 […] - ETA: 0s - loss: 0.6545
 1140/1149 [===========================>.] - ETA: 0s - loss: 0.6024
 1050/1149 [==========================>…] - ETA: 0s - loss: 0.8825
 1149/1149 [==============================] - 0s 97us/step - loss: 0.5996
Epoch 14/20

   20/1149 […] - ETA: 0s - loss: 0.1797Epoch 7/10

   30/1149 […] - ETA: 0s - loss: 0.3555
 1149/1149 [==============================] - 0s 99us/step - loss: 0.8576
Epoch 6/10

   30/1149 […] - ETA: 0s - loss: 0.8359
  870/1148 [=====================>…] - ETA: 0s - loss: 0.1324
  660/1149 [================>…] - ETA: 0s - loss: 0.8875
  800/1149 [===================>…] - ETA: 0s - loss: 0.1291
  630/1149 [==============>…] - ETA: 0s - loss: 0.7813
 1148/1148 [==============================] - 0s 114us/step - loss: 0.1358

  440/1149 [=========>…] - ETA: 0s - loss: 0.1544
  630/1149 [==============>…] - ETA: 0s - loss: 0.4630Epoch 8/10

   30/1148 […] - ETA: 0s - loss: 0.1728
  630/1149 [==============>…] - ETA: 0s - loss: 0.7616
 1149/1149 [==============================] - 0s 83us/step - loss: 0.8702
Epoch 8/10

   30/1149 […] - ETA: 0s - loss: 0.6598
 1149/1149 [==============================] - 0s 133us/step - loss: 0.1248
Epoch 17/20

   20/1149 […] - ETA: 0s - loss: 0.1649
 1149/1149 [==============================] - 0s 90us/step - loss: 0.7060

 1149/1149 [==============================] - 0s 87us/step - loss: 0.4245
Epoch 8/10

   30/1149 […] - ETA: 0s - loss: 0.1869
  720/1148 [=================>…] - ETA: 0s - loss: 0.1167
  940/1149 [======================>…] - ETA: 0s - loss: 0.1485
 1149/1149 [==============================] - 0s 91us/step - loss: 0.7182
Epoch 7/10

   30/1149 […] - ETA: 0s - loss: 0.7587
 1149/1149 [==============================] - 0s 112us/step - loss: 0.1502
Epoch 15/20

   20/1149 […] - ETA: 0s - loss: 0.1051
```

```
1148/1148 [==============================] - 0s 70us/step - loss: 0.1229
Epoch 9/10

  30/1148 […] - ETA: 0s - loss: 0.0935
 570/1149 [============>…] - ETA: 0s - loss: 0.8293
 520/1149 [===========>…] - ETA: 0s - loss: 0.1241
 510/1149 [===========>…] - ETA: 0s - loss: 0.2968
 690/1149 [================>…] - ETA: 0s - loss: 0.6087
 520/1149 [===========>…] - ETA: 0s - loss: 0.1333
 780/1148 [==================>…] - ETA: 0s - loss: 0.1168
1149/1149 [==============================] - 0s 91us/step - loss: 0.8236
Epoch 9/10

  30/1149 […] - ETA: 0s - loss: 0.7842
 980/1149 [========================>…] - ETA: 0s - loss: 0.1149
1080/1149 [===========================>..] - ETA: 0s - loss: 0.2752
1148/1148 [==============================] - 0s 71us/step - loss: 0.1139


1149/1149 [==============================] - 0s 109us/step - loss: 0.1251


1149/1149 [==============================] - 0s 90us/step - loss: 0.5702


1149/1149 [==============================] - 0s 100us/step - loss: 0.2775
Epoch 18/20

  20/1149 […] - ETA: 0s - loss: 0.0940Epoch 10/10

  30/1148 […] - ETA: 0s - loss: 0.1142Epoch 8/10

  30/1149 […] - ETA: 0s - loss: 0.3842Epoch 9/10

  30/1149 […] - ETA: 0s - loss: 0.1959
 960/1149 [========================>…] - ETA: 0s - loss: 0.1471
 690/1149 [================>…] - ETA: 0s - loss: 0.8226
1149/1149 [==============================] - 0s 117us/step - loss: 0.1464
Epoch 16/20

  20/1149 […] - ETA: 0s - loss: 0.1000
 440/1149 [=========>…] - ETA: 0s - loss: 0.1197
 600/1148 [=============>…] - ETA: 0s - loss: 0.1063
 720/1149 [================>…] - ETA: 0s - loss: 0.1905
 810/1149 [===================>…] - ETA: 0s - loss: 0.4515
1149/1149 [==============================] - 0s 79us/step - loss: 0.7904
Epoch 10/10

  30/1149 […] - ETA: 0s - loss: 0.4735
1149/1149 [==============================] - 0s 71us/step - loss: 0.4246
Epoch 9/10
```

```
  30/1149 […] - ETA: 0s - loss: 0.2691
1149/1149 [==============================] - 0s 78us/step - loss: 0.1846
Epoch 10/10

  30/1149 […] - ETA: 0s - loss: 0.1643
 420/1149 [========>…] - ETA: 0s - loss: 0.1391
1148/1148 [==============================] - 0s 90us/step - loss: 0.1077

 900/1149 [======================>…] - ETA: 0s - loss: 0.1168
 660/1149 [=================>…] - ETA: 0s - loss: 0.7608
1149/1149 [==============================] - 0s 117us/step - loss: 0.1242

 720/1149 [=================>…] - ETA: 0s - loss: 0.2909Epoch 19/20

  20/1149 […] - ETA: 0s - loss: 0.0991
 660/1149 [=================>…] - ETA: 0s - loss: 0.1458
 880/1149 [=====================>…] - ETA: 0s - loss: 0.1531
1149/1149 [==============================] - 0s 76us/step - loss: 0.7627

1149/1149 [==============================] - 0s 75us/step - loss: 0.2954
Epoch 10/10

  30/1149 […] - ETA: 0s - loss: 0.2436
1149/1149 [==============================] - 0s 74us/step - loss: 0.1457

1149/1149 [==============================] - 0s 116us/step - loss: 0.1437
Epoch 17/20

  20/1149 […] - ETA: 0s - loss: 0.1918
 520/1149 [============>…] - ETA: 0s - loss: 0.1448
 720/1149 [=================>…] - ETA: 0s - loss: 0.2131
 540/1149 [=============>…] - ETA: 0s - loss: 0.1286
1080/1149 [============================>..] - ETA: 0s - loss: 0.1258
1149/1149 [==============================] - 0s 105us/step - loss: 0.1232

1149/1149 [==============================] - 0s 74us/step - loss: 0.2092
Epoch 20/20

  20/1149 […] - ETA: 0s - loss: 0.0512
 920/1149 [=======================>…] - ETA: 0s - loss: 0.1440
 400/1149 [========>…] - ETA: 0s - loss: 0.1088
1149/1149 [==============================] - 0s 120us/step - loss: 0.1413
Epoch 18/20

  20/1149 […] - ETA: 0s - loss: 0.0757
 680/1149 [=================>…] - ETA: 0s - loss: 0.1068
 280/1149 [======>…] - ETA: 0s - loss: 0.1562Epoch 1/10
```

```
  30/1149 […] - ETA: 12s - loss: 0.8218
 940/1149 [=======================>…] - ETA: 0s - loss: 0.1184
 660/1149 [===============>…] - ETA: 0s - loss: 0.1427
 480/1149 [==========>…] - ETA: 0s - loss: 1.0368
1149/1149 [==============================] - 0s 167us/step - loss: 0.1232


1020/1149 [=========================>…] - ETA: 0s - loss: 0.1394
1110/1149 [===========================>..] - ETA: 0s - loss: 1.0834
1149/1149 [==============================] - 0s 393us/step - loss: 1.0934
Epoch 2/10


  30/1149 […] - ETA: 0s - loss: 0.8655Epoch 1/15


  30/1148 […] - ETA: 12s - loss: 0.3607
1149/1149 [==============================] - 0s 158us/step - loss: 0.1385
Epoch 19/20


  20/1149 […] - ETA: 0s - loss: 0.0869
 660/1149 [===============>…] - ETA: 0s - loss: 1.1453
 270/1148 [======>…] - ETA: 1s - loss: 0.3789
 460/1149 [==========>…] - ETA: 0s - loss: 0.1162
1140/1149 [============================>.] - ETA: 0s - loss: 1.0666
1149/1149 [==============================] - 0s 94us/step - loss: 1.0628
Epoch 3/10


  30/1149 […] - ETA: 0s - loss: 1.1583
 720/1148 [=================>…] - ETA: 0s - loss: 0.3666
 840/1149 [====================>…] - ETA: 0s - loss: 0.1405
1148/1148 [==============================] - 0s 426us/step - loss: 0.3522
Epoch 2/15


  30/1148 […] - ETA: 0s - loss: 0.3515Epoch 1/15


  30/1149 […] - ETA: 12s - loss: 1.1843
 600/1149 [=============>…] - ETA: 0s - loss: 1.0514
1149/1149 [==============================] - 0s 132us/step - loss: 0.1362
Epoch 20/20


  20/1149 […] - ETA: 0s - loss: 0.0962
1149/1149 [==============================] - 0s 83us/step - loss: 1.0015


 630/1148 [==============>…] - ETA: 0s - loss: 0.2827Epoch 4/10


  30/1149 […] - ETA: 0s - loss: 0.8261
 510/1149 [===========>…] - ETA: 0s - loss: 1.0656
 440/1149 [=========>…] - ETA: 0s - loss: 0.1320
1148/1148 [==============================] - 0s 74us/step - loss: 0.2828
```

```
Epoch 3/15

  30/1148 […] - ETA: 0s - loss: 0.1402Epoch 1/15

  30/1149 […] - ETA: 13s - loss: 1.2952Epoch 1/15

  30/1149 […] - ETA: 12s - loss: 1.2306
 570/1149 [=============>…] - ETA: 0s - loss: 0.9846
1110/1149 [===========================>..] - ETA: 0s - loss: 1.1763
1149/1149 [==============================] - 0s 378us/step - loss: 1.1851

 820/1149 [====================>…] - ETA: 0s - loss: 0.1398Epoch 2/15

  30/1149 […] - ETA: 0s - loss: 1.3221
 720/1148 [=================>…] - ETA: 0s - loss: 0.2253
 600/1149 [==============>…] - ETA: 0s - loss: 1.1832
 360/1149 [========>…] - ETA: 0s - loss: 1.2924
1149/1149 [==============================] - 0s 90us/step - loss: 0.9044
Epoch 5/10

  30/1149 […] - ETA: 0s - loss: 1.5941
1149/1149 [==============================] - 0s 128us/step - loss: 0.1345

 750/1149 [==================>…] - ETA: 0s - loss: 1.2489
1148/1148 [==============================] - 0s 75us/step - loss: 0.2123
Epoch 4/15

  30/1148 […] - ETA: 0s - loss: 0.4412
1149/1149 [==============================] - 0s 70us/step - loss: 1.1565
Epoch 3/15

  30/1149 […] - ETA: 0s - loss: 0.8838
1149/1149 [==============================] - 0s 410us/step - loss: 1.1705
Epoch 2/15

  30/1149 […] - ETA: 0s - loss: 1.6233
 660/1149 [===============>…] - ETA: 0s - loss: 1.1670
 660/1149 [===============>…] - ETA: 0s - loss: 0.8093
 630/1148 [==============>…] - ETA: 0s - loss: 0.1863
 750/1149 [==================>…] - ETA: 0s - loss: 1.1232
 750/1149 [==================>…] - ETA: 0s - loss: 1.1973
1149/1149 [==============================] - 0s 83us/step - loss: 0.7748
Epoch 6/10

  30/1149 […] - ETA: 0s - loss: 0.2597
 990/1149 [========================>…] - ETA: 0s - loss: 1.1667
1149/1149 [==============================] - 0s 433us/step - loss: 1.1347
Epoch 2/15
```

```
  30/1149 [………] - ETA: 0s - loss: 2.0500
1148/1148 [==============================] - 0s 89us/step - loss: 0.1690
Epoch 5/15

  30/1148 [………] - ETA: 0s - loss: 0.1772
1149/1149 [==============================] - 0s 79us/step - loss: 1.0903
Epoch 4/15

  30/1149 [………] - ETA: 0s - loss: 0.8845
1149/1149 [==============================] - 0s 90us/step - loss: 1.1331

 750/1149 [=================>…] - ETA: 0s - loss: 0.6270Epoch 3/15

  30/1149 [………] - ETA: 0s - loss: 0.5916
 810/1149 [====================>…] - ETA: 0s - loss: 1.1755
 720/1148 [================>…] - ETA: 0s - loss: 0.1582
1149/1149 [==============================] - 0s 68us/step - loss: 0.6204
Epoch 7/10

  30/1149 [………] - ETA: 0s - loss: 0.4685
 690/1149 [================>…] - ETA: 0s - loss: 1.0336
1149/1149 [==============================] - 0s 70us/step - loss: 1.1173
Epoch 3/15

  30/1149 [………] - ETA: 0s - loss: 2.3949
 600/1149 [=============>…] - ETA: 0s - loss: 1.2277
1148/1148 [==============================] - 0s 81us/step - loss: 0.1482
Epoch 6/15

  30/1148 [………] - ETA: 0s - loss: 0.1253
 720/1149 [================>…] - ETA: 0s - loss: 0.4555
1149/1149 [==============================] - 0s 78us/step - loss: 1.0531

1140/1149 [============================>.] - ETA: 0s - loss: 0.9861Epoch 4/15

  30/1149 [………] - ETA: 0s - loss: 0.9749
1149/1149 [==============================] - 0s 95us/step - loss: 0.9860
Epoch 5/15

  30/1149 [………] - ETA: 0s - loss: 0.6984
 690/1149 [================>…] - ETA: 0s - loss: 1.0549
1149/1149 [==============================] - 0s 69us/step - loss: 0.4694
Epoch 8/10

  30/1149 [………] - ETA: 0s - loss: 0.2972
 690/1148 [================>…] - ETA: 0s - loss: 0.1309
 810/1149 [====================>…] - ETA: 0s - loss: 0.9705
```

```
 450/1149 [==========>…] - ETA: 0s - loss: 0.9080
1148/1148 [==============================] - 0s 74us/step - loss: 0.1318
Epoch 7/15

  30/1148 […] - ETA: 0s - loss: 0.1086
1140/1149 [============================>.] - ETA: 0s - loss: 1.0785Epoch 1/20

  30/1148 […] - ETA: 14s - loss: 0.4135
 780/1149 [===================>…] - ETA: 0s - loss: 0.3430
1149/1149 [==============================] - 0s 96us/step - loss: 1.0737
Epoch 4/15

  30/1149 […] - ETA: 0s - loss: 0.7234
1149/1149 [==============================] - 0s 75us/step - loss: 0.9252
Epoch 1/15

  30/1149 […] - ETA: 12s - loss: 0.9608Epoch 5/15

  30/1149 […] - ETA: 0s - loss: 0.6803
1149/1149 [==============================] - 0s 71us/step - loss: 0.3381
Epoch 9/10

  30/1149 […] - ETA: 0s - loss: 0.1652
1149/1149 [==============================] - 0s 94us/step - loss: 0.8494
Epoch 6/15

  30/1149 […] - ETA: 0s - loss: 0.9787
 720/1148 [=================>…] - ETA: 0s - loss: 0.1307
 540/1148 [=============>…] - ETA: 0s - loss: 0.3997
 690/1149 [=================>…] - ETA: 0s - loss: 0.9307
 750/1149 [=================>…] - ETA: 0s - loss: 0.8303
 240/1149 [=====>…] - ETA: 1s - loss: 0.9998
1148/1148 [==============================] - 0s 74us/step - loss: 0.1193
Epoch 8/15

  30/1148 […] - ETA: 0s - loss: 0.1609
 750/1149 [=================>…] - ETA: 0s - loss: 0.2567
1149/1149 [==============================] - 0s 77us/step - loss: 0.9970
Epoch 5/15

  30/1149 […] - ETA: 0s - loss: 0.6952
 750/1149 [=================>…] - ETA: 0s - loss: 0.7168
1050/1148 [========================>…] - ETA: 0s - loss: 0.3691
1149/1149 [==============================] - 0s 72us/step - loss: 0.7477
Epoch 6/15

  30/1149 […] - ETA: 0s - loss: 0.4576
1148/1148 [==============================] - 0s 426us/step - loss: 0.3627
```

```
1149/1149 [==============================] - 0s 73us/step - loss: 0.2453
Epoch 2/20

  30/1148 […] - ETA: 0s - loss: 0.2500Epoch 10/10

  30/1149 […] - ETA: 0s - loss: 0.4361
1149/1149 [==============================] - 0s 72us/step - loss: 0.6832

 570/1149 [=============>…] - ETA: 0s - loss: 1.0634Epoch 7/15

  30/1149 […] - ETA: 0s - loss: 0.4770
 780/1148 [===================>…] - ETA: 0s - loss: 0.1063
 720/1149 [=================>…] - ETA: 0s - loss: 0.8844
 780/1149 [===================>…] - ETA: 0s - loss: 0.5643
1148/1148 [==============================] - 0s 70us/step - loss: 0.1089
Epoch 9/15

  30/1148 […] - ETA: 0s - loss: 0.1188
 690/1148 [=================>…] - ETA: 0s - loss: 0.3345
 660/1149 [================>…] - ETA: 0s - loss: 0.2019
1149/1149 [==============================] - 0s 73us/step - loss: 0.8987
Epoch 6/15

  30/1149 […] - ETA: 0s - loss: 0.3913
 720/1149 [=================>…] - ETA: 0s - loss: 0.5244
 690/1149 [=================>…] - ETA: 0s - loss: 1.1088
1149/1149 [==============================] - 0s 73us/step - loss: 0.5470
Epoch 7/15

  30/1149 […] - ETA: 0s - loss: 0.6288
1148/1148 [==============================] - 0s 80us/step - loss: 0.3078

1149/1149 [==============================] - 0s 79us/step - loss: 0.1975
Epoch 3/20

  30/1148 […] - ETA: 0s - loss: 0.1577
 690/1148 [=================>…] - ETA: 0s - loss: 0.0981
1149/1149 [==============================] - 0s 80us/step - loss: 0.5157
Epoch 8/15

  30/1149 […] - ETA: 0s - loss: 0.3399
 780/1149 [===================>…] - ETA: 0s - loss: 0.8825
1080/1149 [===========================>..] - ETA: 0s - loss: 1.0967Epoch 1/20

  30/1149 […] - ETA: 10s - loss: 1.2072
 720/1149 [=================>…] - ETA: 0s - loss: 0.4102
1149/1149 [==============================] - 1s 480us/step - loss: 1.0949
```

```
Epoch 2/15

   30/1149 [...] - ETA: 0s - loss: 1.1856
1148/1148 [==============================] - 0s 83us/step - loss: 0.1015
Epoch 10/15

   30/1148 [...] - ETA: 0s - loss: 0.0573
1149/1149 [==============================] - 0s 70us/step - loss: 0.7982
Epoch 7/15

   30/1149 [...] - ETA: 0s - loss: 0.8684
 690/1148 [=================>...] - ETA: 0s - loss: 0.2463
1149/1149 [==============================] - 0s 71us/step - loss: 0.3710
Epoch 8/15

   30/1149 [...] - ETA: 0s - loss: 0.4456
 750/1149 [==================>...] - ETA: 0s - loss: 0.3925
 330/1149 [=======>...] - ETA: 0s - loss: 1.0881
 720/1149 [=================>...] - ETA: 0s - loss: 1.0959
1148/1148 [==============================] - 0s 82us/step - loss: 0.2367
Epoch 4/20

   30/1148 [...] - ETA: 0s - loss: 0.1786
1149/1149 [==============================] - 0s 77us/step - loss: 0.3765

 870/1149 [=====================>...] - ETA: 0s - loss: 0.7060Epoch 9/15

   30/1149 [...] - ETA: 0s - loss: 0.3098
 600/1148 [==============>...] - ETA: 0s - loss: 0.1015
 690/1149 [=================>...] - ETA: 0s - loss: 0.2614
1149/1149 [==============================] - 0s 60us/step - loss: 0.7079
Epoch 8/15

   30/1149 [...] - ETA: 0s - loss: 1.0615
1149/1149 [==============================] - 0s 73us/step - loss: 1.0645
Epoch 3/15

   30/1149 [...] - ETA: 0s - loss: 0.4072
 570/1149 [=============>...] - ETA: 0s - loss: 1.2865
1148/1148 [==============================] - 0s 87us/step - loss: 0.0962

 540/1148 [============>...] - ETA: 0s - loss: 0.1859Epoch 11/15

   30/1148 [...] - ETA: 0s - loss: 0.1399
1149/1149 [==============================] - 0s 77us/step - loss: 0.2418
Epoch 9/15

   30/1149 [...] - ETA: 0s - loss: 0.1182
```

```
 750/1149 [==================>…] - ETA: 0s - loss: 0.3090
 780/1149 [==================>…] - ETA: 0s - loss: 0.6464
 840/1149 [===================>…] - ETA: 0s - loss: 1.0215
 870/1149 [====================>…] - ETA: 0s - loss: 1.2113
1149/1149 [==============================] - 0s 74us/step - loss: 0.2782
Epoch 10/15

  30/1149 […] - ETA: 0s - loss: 0.1697
1148/1148 [==============================] - 0s 88us/step - loss: 0.1810


1149/1149 [==============================] - 0s 69us/step - loss: 0.6218
Epoch 5/20

  30/1148 […] - ETA: 0s - loss: 0.1751Epoch 9/15

  30/1149 […] - ETA: 0s - loss: 0.1535
 780/1148 [==================>…] - ETA: 0s - loss: 0.0919
1149/1149 [==============================] - 0s 68us/step - loss: 1.0131


 750/1149 [=================>…] - ETA: 0s - loss: 0.1693Epoch 4/15

  30/1149 […] - ETA: 0s - loss: 2.0306
1148/1148 [==============================] - 0s 70us/step - loss: 0.0927
Epoch 12/15

  30/1148 […] - ETA: 0s - loss: 0.0713
1149/1149 [==============================] - 0s 73us/step - loss: 0.1726
Epoch 10/15

  30/1149 […] - ETA: 0s - loss: 0.1720
 780/1149 [==================>…] - ETA: 0s - loss: 0.2233
1149/1149 [==============================] - 1s 436us/step - loss: 1.1888
Epoch 2/20

  30/1149 […] - ETA: 0s - loss: 0.7173
 660/1148 [================>…] - ETA: 0s - loss: 0.1589
 810/1149 [===================>…] - ETA: 0s - loss: 0.5276
 690/1149 [================>…] - ETA: 0s - loss: 0.9997
1149/1149 [==============================] - 0s 75us/step - loss: 0.2236
Epoch 11/15

  30/1149 […] - ETA: 0s - loss: 0.1933
1149/1149 [==============================] - 0s 71us/step - loss: 0.5352
Epoch 10/15

  30/1149 […] - ETA: 0s - loss: 0.2781
 810/1148 [===================>…] - ETA: 0s - loss: 0.0894
 780/1149 [==================>…] - ETA: 0s - loss: 0.1448
```

```
1148/1148 [==============================] - 0s 82us/step - loss: 0.1536
Epoch 6/20

  30/1148 [...] - ETA: 0s - loss: 0.1493
 300/1149 [======>...] - ETA: 0s - loss: 1.0977
1149/1149 [==============================] - 0s 81us/step - loss: 0.9414
Epoch 5/15

  30/1149 [...] - ETA: 0s - loss: 2.0087
1148/1148 [==============================] - 0s 65us/step - loss: 0.0900
Epoch 13/15

  30/1148 [...] - ETA: 0s - loss: 0.1373
1149/1149 [==============================] - 0s 77us/step - loss: 0.1509

 720/1149 [=================>...] - ETA: 0s - loss: 0.1908Epoch 11/15

  30/1149 [...] - ETA: 0s - loss: 0.1785
 750/1149 [=================>...] - ETA: 0s - loss: 0.4804
 720/1148 [=================>...] - ETA: 0s - loss: 0.1330
 570/1149 [============>...] - ETA: 0s - loss: 1.1496
 630/1149 [==============>...] - ETA: 0s - loss: 0.9057
1149/1149 [==============================] - 0s 73us/step - loss: 0.1891

 840/1148 [====================>...] - ETA: 0s - loss: 0.0788Epoch 12/15

  30/1149 [...] - ETA: 0s - loss: 0.1799
1149/1149 [==============================] - 0s 72us/step - loss: 0.4510
Epoch 11/15

  30/1149 [...] - ETA: 0s - loss: 0.4111
1148/1148 [==============================] - 0s 71us/step - loss: 0.1369
Epoch 7/20

  30/1148 [...] - ETA: 0s - loss: 0.1594
 720/1149 [=================>...] - ETA: 0s - loss: 0.1324
1148/1148 [==============================] - 0s 65us/step - loss: 0.0879
Epoch 14/15

  30/1148 [...] - ETA: 0s - loss: 0.1064
1149/1149 [==============================] - 0s 78us/step - loss: 0.8459
Epoch 6/15

  30/1149 [...] - ETA: 0s - loss: 1.3182
1050/1149 [==========================>...] - ETA: 0s - loss: 1.1673
 630/1149 [==============>...] - ETA: 0s - loss: 0.1579
1149/1149 [==============================] - 0s 75us/step - loss: 0.1424
Epoch 12/15
```

```
  30/1149 […] - ETA: 0s - loss: 0.1813
1149/1149 [==============================] - 0s 155us/step - loss: 1.1745


 630/1149 [==============>…] - ETA: 0s - loss: 0.4276Epoch 3/20

  30/1149 […] - ETA: 0s - loss: 1.0730
 690/1148 [================>…] - ETA: 0s - loss: 0.1276
 750/1148 [==================>…] - ETA: 0s - loss: 0.0883
 840/1149 [====================>…] - ETA: 0s - loss: 0.7770
1149/1149 [==============================] - 0s 80us/step - loss: 0.1667
Epoch 13/15

  30/1149 […] - ETA: 0s - loss: 0.1688
1149/1149 [==============================] - 0s 83us/step - loss: 0.3735
Epoch 12/15

  30/1149 […] - ETA: 0s - loss: 0.2534
 750/1149 [==================>…] - ETA: 0s - loss: 0.1276
1148/1148 [==============================] - 0s 76us/step - loss: 0.0861
Epoch 15/15

  30/1148 […] - ETA: 0s - loss: 0.0806
 360/1149 [=======>…] - ETA: 0s - loss: 1.0935
1110/1148 [===========================>.] - ETA: 0s - loss: 0.1249
1148/1148 [==============================] - 0s 92us/step - loss: 0.1238
Epoch 8/20

  30/1148 […] - ETA: 0s - loss: 0.1229
1149/1149 [==============================] - 0s 82us/step - loss: 0.7328
Epoch 7/15

  30/1149 […] - ETA: 0s - loss: 0.6560
1149/1149 [==============================] - 0s 74us/step - loss: 0.1372
Epoch 13/15

  30/1149 […] - ETA: 0s - loss: 0.1844
 810/1149 [====================>…] - ETA: 0s - loss: 0.1631
 750/1149 [==================>…] - ETA: 0s - loss: 0.2905
 810/1148 [====================>…] - ETA: 0s - loss: 0.0782
1149/1149 [==============================] - 0s 68us/step - loss: 0.1531
Epoch 14/15

  30/1149 […] - ETA: 0s - loss: 0.0904
 930/1149 [=======================>…] - ETA: 0s - loss: 1.1190
 600/1149 [==============>…] - ETA: 0s - loss: 0.6015
 510/1148 [===========>…] - ETA: 0s - loss: 0.1334
1149/1149 [==============================] - 0s 73us/step - loss: 0.3043
```

```
Epoch 13/15

   30/1149 […] - ETA: 0s - loss: 0.2569
1148/1148 [==============================] - 0s 67us/step - loss: 0.0849


1149/1149 [==============================] - 0s 112us/step - loss: 1.1351
Epoch 4/20

   30/1149 […] - ETA: 0s - loss: 1.3907
 720/1149 [================>…] - ETA: 0s - loss: 0.1352Epoch 1/20


   30/1149 […] - ETA: 11s - loss: 0.3891
 750/1149 [=================>…] - ETA: 0s - loss: 0.1416
1149/1149 [==============================] - 0s 86us/step - loss: 0.6037
Epoch 8/15

   30/1149 […] - ETA: 0s - loss: 0.6222
1149/1149 [==============================] - 0s 78us/step - loss: 0.1339


1110/1148 [===========================>.] - ETA: 0s - loss: 0.1145Epoch 14/15

   30/1149 […] - ETA: 0s - loss: 0.1350
1148/1148 [==============================] - 0s 99us/step - loss: 0.1140


 720/1149 [================>…] - ETA: 0s - loss: 0.2483Epoch 9/20

   30/1148 […] - ETA: 0s - loss: 0.1206
 870/1149 [=====================>…] - ETA: 0s - loss: 1.0899
1149/1149 [==============================] - 0s 71us/step - loss: 0.1464
Epoch 15/15

   30/1149 […] - ETA: 0s - loss: 0.1858
1149/1149 [==============================] - 0s 61us/step - loss: 1.0680
Epoch 5/20

   30/1149 […] - ETA: 0s - loss: 1.5573
1149/1149 [==============================] - 0s 76us/step - loss: 0.2466


 330/1149 [======>…] - ETA: 0s - loss: 1.0022 Epoch 14/15

   30/1149 […] - ETA: 0s - loss: 0.1303
 720/1149 [================>…] - ETA: 0s - loss: 0.5611
 690/1149 [================>…] - ETA: 0s - loss: 0.1426
 660/1148 [===============>…] - ETA: 0s - loss: 0.1080
 690/1149 [================>…] - ETA: 0s - loss: 0.1443
1149/1149 [==============================] - 0s 71us/step - loss: 0.4788
Epoch 9/15
```

```
  30/1149 […] - ETA: 0s - loss: 0.6685
 840/1149 [===================>…] - ETA: 0s - loss: 1.0498
1149/1149 [==============================] - 0s 84us/step - loss: 0.1313


 660/1149 [===============>…] - ETA: 0s - loss: 0.2007Epoch 15/15

  30/1149 […] - ETA: 0s - loss: 0.0669
 540/1149 [=============>…] - ETA: 0s - loss: 1.2411
1148/1148 [==============================] - 0s 83us/step - loss: 0.1061


1149/1149 [==============================] - 0s 64us/step - loss: 0.9745
Epoch 10/20

  30/1148 […] - ETA: 0s - loss: 0.1315Epoch 6/20

  30/1149 […] - ETA: 0s - loss: 2.8992
1149/1149 [==============================] - 0s 81us/step - loss: 0.1422


 660/1149 [===============>…] - ETA: 0s - loss: 0.3752
1149/1149 [==============================] - 0s 85us/step - loss: 0.1970
Epoch 15/15

  30/1149 […] - ETA: 0s - loss: 0.1733
 750/1149 [=================>…] - ETA: 0s - loss: 0.1313
 960/1149 [========================>…] - ETA: 0s - loss: 1.1204
 750/1148 [=================>…] - ETA: 0s - loss: 0.1048
 690/1149 [================>…] - ETA: 0s - loss: 0.8725
1149/1149 [==============================] - 0s 81us/step - loss: 0.3692
Epoch 10/15

  30/1149 […] - ETA: 0s - loss: 0.2105
1149/1149 [==============================] - 0s 67us/step - loss: 0.1299


1148/1148 [==============================] - 0s 66us/step - loss: 0.1005
Epoch 11/20

  30/1148 […] - ETA: 0s - loss: 0.1655
 750/1149 [=================>…] - ETA: 0s - loss: 0.1715
1149/1149 [==============================] - 0s 82us/step - loss: 0.8576
Epoch 7/20

  30/1149 […] - ETA: 0s - loss: 1.0103
1140/1149 [=============================>.] - ETA: 0s - loss: 1.1780
1149/1149 [==============================] - 1s 476us/step - loss: 1.1754


1149/1149 [==============================] - 0s 72us/step - loss: 0.1636


 600/1149 [=============>…] - ETA: 0s - loss: 0.2948Epoch 2/20
```

```
  30/1149 […] - ETA: 0s - loss: 1.0575
 840/1148 [===================>…] - ETA: 0s - loss: 0.1014
 450/1149 [=========>…] - ETA: 0s - loss: 0.8039
1148/1148 [==============================] - 0s 82us/step - loss: 0.0968


1020/1149 [=========================>…] - ETA: 0s - loss: 0.2773Epoch 12/20

  30/1148 […] - ETA: 0s - loss: 0.1482
 450/1149 [=========>…] - ETA: 0s - loss: 1.1084
1149/1149 [==============================] - 0s 101us/step - loss: 0.2802
Epoch 11/15

  30/1149 […] - ETA: 0s - loss: 0.3610
1020/1149 [=========================>…] - ETA: 0s - loss: 0.7501
1149/1149 [==============================] - 0s 102us/step - loss: 0.7264
Epoch 8/20

  30/1149 […] - ETA: 0s - loss: 0.6840
 720/1148 [=================>…] - ETA: 0s - loss: 0.1019
1050/1149 [=========================>…] - ETA: 0s - loss: 1.1012
 750/1149 [==================>…] - ETA: 0s - loss: 0.2444
1149/1149 [==============================] - 0s 103us/step - loss: 1.1487
Epoch 3/20

  30/1149 […] - ETA: 0s - loss: 0.8425
1148/1148 [==============================] - 0s 75us/step - loss: 0.0943
Epoch 13/20

  30/1148 […] - ETA: 0s - loss: 0.0520
1149/1149 [==============================] - 0s 71us/step - loss: 0.2200


 840/1149 [===================>…] - ETA: 0s - loss: 0.6607Epoch 12/15

  30/1149 […] - ETA: 0s - loss: 0.0578
1149/1149 [==============================] - 0s 63us/step - loss: 0.5992
Epoch 9/20

  30/1149 […] - ETA: 0s - loss: 0.3844
 720/1149 [=================>…] - ETA: 0s - loss: 1.1098
 780/1148 [==================>…] - ETA: 0s - loss: 0.0894
 750/1149 [=================>…] - ETA: 0s - loss: 0.1842
1149/1149 [==============================] - 0s 81us/step - loss: 1.0960
Epoch 4/20

  30/1149 […] - ETA: 0s - loss: 1.0239
 870/1149 [====================>…] - ETA: 0s - loss: 0.5288
1148/1148 [==============================] - 0s 72us/step - loss: 0.0919
```

```
Epoch 14/20

  30/1148 [...] - ETA: 0s - loss: 0.0503
1149/1149 [==============================] - 0s 66us/step - loss: 0.1815
Epoch 13/15

  30/1149 [...] - ETA: 0s - loss: 0.2979
1149/1149 [==============================] - 0s 63us/step - loss: 0.4865
Epoch 10/20

  30/1149 [...] - ETA: 0s - loss: 0.1991Epoch 1/20

  30/1149 [...] - ETA: 10s - loss: 0.6645
 960/1149 [========================>...] - ETA: 0s - loss: 1.0534
 840/1148 [=====================>...] - ETA: 0s - loss: 0.0909
 810/1149 [====================>...] - ETA: 0s - loss: 0.1752
1149/1149 [==============================] - 0s 60us/step - loss: 1.0100
Epoch 5/20

  30/1149 [...] - ETA: 0s - loss: 0.7039
1148/1148 [==============================] - 0s 61us/step - loss: 0.0899
Epoch 15/20

  30/1148 [...] - ETA: 0s - loss: 0.0962
 960/1149 [========================>...] - ETA: 0s - loss: 0.3825
1149/1149 [==============================] - 0s 56us/step - loss: 0.3833

1149/1149 [==============================] - 0s 72us/step - loss: 0.1603
Epoch 11/20

  30/1149 [...] - ETA: 0s - loss: 0.2288Epoch 14/15

  30/1149 [...] - ETA: 0s - loss: 0.1821
 900/1149 [======================>...] - ETA: 0s - loss: 1.1249
1149/1149 [==============================] - 0s 313us/step - loss: 1.1277
Epoch 2/20

  30/1149 [...] - ETA: 0s - loss: 0.9113
 810/1149 [====================>...] - ETA: 0s - loss: 0.8748
1050/1148 [==========================>...] - ETA: 0s - loss: 0.0852
1148/1148 [==============================] - 0s 51us/step - loss: 0.0883
Epoch 16/20

  30/1148 [...] - ETA: 0s - loss: 0.0799
1149/1149 [==============================] - 0s 66us/step - loss: 0.8856

1020/1149 [========================>...] - ETA: 0s - loss: 0.3012
 570/1149 [============>...] - ETA: 0s - loss: 0.1381Epoch 6/20
```

```
  30/1149 […] - ETA: 0s - loss: 1.2322
1149/1149 [==============================] - 0s 54us/step - loss: 0.2982
Epoch 12/20

  30/1149 […] - ETA: 0s - loss: 0.1248
 870/1149 [=====================>…] - ETA: 0s - loss: 1.0994
1149/1149 [==============================] - 0s 81us/step - loss: 0.1501

 990/1148 [========================>…] - ETA: 0s - loss: 0.0896Epoch 15/15

  30/1149 […] - ETA: 0s - loss: 0.1140
1149/1149 [==============================] - 0s 65us/step - loss: 1.0878
Epoch 3/20

  30/1149 […] - ETA: 0s - loss: 1.2319Epoch 1/20

  30/1149 […] - ETA: 9s - loss: 1.6393
1148/1148 [==============================] - 0s 52us/step - loss: 0.0871
Epoch 17/20

  30/1148 […] - ETA: 0s - loss: 0.0634
 840/1149 [=====================>…] - ETA: 0s - loss: 0.7492
 900/1149 [======================>…] - ETA: 0s - loss: 0.2297
1149/1149 [==============================] - 0s 63us/step - loss: 0.7340
Epoch 7/20

  30/1149 […] - ETA: 0s - loss: 0.4975
1149/1149 [==============================] - 0s 62us/step - loss: 0.2276
Epoch 13/20

  30/1149 […] - ETA: 0s - loss: 0.1435
 750/1149 [=================>…] - ETA: 0s - loss: 0.1462
 750/1149 [=================>…] - ETA: 0s - loss: 1.1065
 750/1149 [=================>…] - ETA: 0s - loss: 1.0053
 870/1148 [====================>…] - ETA: 0s - loss: 0.0848
1148/1148 [==============================] - 0s 60us/step - loss: 0.0863

1149/1149 [==============================] - 0s 69us/step - loss: 0.1444
Epoch 18/20

  30/1148 […] - ETA: 0s - loss: 0.0766
 870/1149 [=====================>…] - ETA: 0s - loss: 0.5637
1149/1149 [==============================] - 0s 299us/step - loss: 1.0942

1149/1149 [==============================] - 0s 75us/step - loss: 1.0112

 720/1149 [=================>…] - ETA: 0s - loss: 0.1899Epoch 2/20
```

```
  30/1149 […] - ETA: 0s - loss: 1.7679Epoch 4/20


  30/1149 […] - ETA: 0s - loss: 1.0784
1149/1149 [==============================] - 0s 62us/step - loss: 0.5674
Epoch 8/20


  30/1149 […] - ETA: 0s - loss: 0.3896
1149/1149 [==============================] - 0s 72us/step - loss: 0.1845
Epoch 14/20


  30/1149 […] - ETA: 0s - loss: 0.1160
 900/1148 [=====================>…] - ETA: 0s - loss: 0.0842
 870/1149 [=====================>…] - ETA: 0s - loss: 1.0789
 780/1149 [===================>…] - ETA: 0s - loss: 0.9269
1148/1148 [==============================] - 0s 60us/step - loss: 0.0854
Epoch 19/20


  30/1148 […] - ETA: 0s - loss: 0.1174
1149/1149 [==============================] - 0s 57us/step - loss: 1.0635


 870/1149 [=====================>…] - ETA: 0s - loss: 0.4214Epoch 3/20


  30/1149 […] - ETA: 0s - loss: 0.8156
1149/1149 [==============================] - 0s 65us/step - loss: 0.9038
Epoch 5/20


  30/1149 […] - ETA: 0s - loss: 0.7117
1149/1149 [==============================] - 0s 61us/step - loss: 0.4043
Epoch 9/20


  30/1149 […] - ETA: 0s - loss: 0.3583
 990/1149 [=======================>…] - ETA: 0s - loss: 0.1538
1149/1149 [==============================] - 0s 54us/step - loss: 0.1577
Epoch 15/20


  30/1149 […] - ETA: 0s - loss: 0.2265
 960/1148 [=======================>…] - ETA: 0s - loss: 0.0885
1020/1149 [=======================>…] - ETA: 0s - loss: 1.0166
1148/1148 [==============================] - 0s 56us/step - loss: 0.0850
Epoch 20/20


  30/1148 […] - ETA: 0s - loss: 0.0826
1149/1149 [==============================] - 0s 51us/step - loss: 1.0099
Epoch 4/20


  30/1149 […] - ETA: 0s - loss: 0.8633
1080/1149 [==========================>..] - ETA: 0s - loss: 0.7484
```

```
1149/1149 [==============================] - 0s 50us/step - loss: 0.7639

 930/1149 [=======================>…] - ETA: 0s - loss: 0.2939Epoch 6/20

  30/1149 […] - ETA: 0s - loss: 0.3036
1149/1149 [==============================] - 0s 55us/step - loss: 0.2784

1020/1149 [=========================>…] - ETA: 0s - loss: 0.1457Epoch 10/20

  30/1149 […] - ETA: 0s - loss: 0.1994
1149/1149 [==============================] - 0s 53us/step - loss: 0.1428
Epoch 16/20

  30/1149 […] - ETA: 0s - loss: 0.0955
 960/1148 [=======================>…] - ETA: 0s - loss: 0.0852
 900/1149 [======================>…] - ETA: 0s - loss: 0.9406
1148/1148 [==============================] - 0s 55us/step - loss: 0.0842

 960/1149 [=======================>…] - ETA: 0s - loss: 0.6402
1149/1149 [==============================] - 0s 58us/step - loss: 0.9327
Epoch 5/20

  30/1149 […] - ETA: 0s - loss: 0.4861
 900/1149 [======================>…] - ETA: 0s - loss: 0.2179
1149/1149 [==============================] - 0s 56us/step - loss: 0.6170
Epoch 7/20

  30/1149 […] - ETA: 0s - loss: 0.7244
 930/1149 [=======================>…] - ETA: 0s - loss: 0.1278
1149/1149 [==============================] - 0s 57us/step - loss: 0.2055
Epoch 11/20

  30/1149 […] - ETA: 0s - loss: 0.1232
1149/1149 [==============================] - 0s 55us/step - loss: 0.1346
Epoch 17/20

  30/1149 […] - ETA: 0s - loss: 0.1566
1149/1149 [==============================] - 0s 45us/step - loss: 0.8443
Epoch 6/20

  30/1149 […] - ETA: 0s - loss: 1.0327
1140/1149 [=============================>.] - ETA: 0s - loss: 0.4751
1149/1149 [==============================] - 0s 47us/step - loss: 0.4727
Epoch 8/20

  30/1149 […] - ETA: 0s - loss: 0.5029
1140/1149 [=============================>.] - ETA: 0s - loss: 0.1758
1149/1149 [==============================] - 0s 47us/step - loss: 0.1753
```

```
Epoch 12/20

  30/1149 […] - ETA: 0s - loss: 0.2131
1140/1149 [============================>.] - ETA: 0s - loss: 0.1293
1149/1149 [==============================] - 0s 47us/step - loss: 0.1296
Epoch 18/20

  30/1149 […] - ETA: 0s - loss: 0.0856
1149/1149 [==============================] - 0s 42us/step - loss: 0.7560
Epoch 7/20

  30/1149 […] - ETA: 0s - loss: 0.5355
1149/1149 [==============================] - 0s 42us/step - loss: 0.3700
Epoch 9/20

  30/1149 […] - ETA: 0s - loss: 0.3866
1149/1149 [==============================] - 0s 43us/step - loss: 0.1608
Epoch 13/20

  30/1149 […] - ETA: 0s - loss: 0.1127
1149/1149 [==============================] - 0s 41us/step - loss: 0.1261
Epoch 19/20

  30/1149 […] - ETA: 0s - loss: 0.1120
1149/1149 [==============================] - 0s 45us/step - loss: 0.6763
Epoch 8/20

  30/1149 […] - ETA: 0s - loss: 0.4383
1149/1149 [==============================] - 0s 44us/step - loss: 0.3034
Epoch 10/20

  30/1149 […] - ETA: 0s - loss: 0.2533
1149/1149 [==============================] - 0s 44us/step - loss: 0.1512
Epoch 14/20

  30/1149 […] - ETA: 0s - loss: 0.0953
1149/1149 [==============================] - 0s 42us/step - loss: 0.1241
Epoch 20/20

  30/1149 […] - ETA: 0s - loss: 0.0968
1149/1149 [==============================] - 0s 44us/step - loss: 0.6058
Epoch 9/20

  30/1149 […] - ETA: 0s - loss: 0.9665
1149/1149 [==============================] - 0s 45us/step - loss: 0.2620
Epoch 11/20

  30/1149 […] - ETA: 0s - loss: 0.2221
```

```
1149/1149 [==============================] - 0s 45us/step - loss: 0.1453
Epoch 15/20

  30/1149 […] - ETA: 0s - loss: 0.1024
1149/1149 [==============================] - 0s 44us/step - loss: 0.1219

1149/1149 [==============================] - 0s 42us/step - loss: 0.5392
Epoch 10/20

  30/1149 […] - ETA: 0s - loss: 0.2481
1149/1149 [==============================] - 0s 42us/step - loss: 0.2364
Epoch 12/20

  30/1149 […] - ETA: 0s - loss: 0.2328
1149/1149 [==============================] - 0s 40us/step - loss: 0.1415
Epoch 16/20

  30/1149 […] - ETA: 0s - loss: 0.1370
1149/1149 [==============================] - 0s 41us/step - loss: 0.4725
Epoch 11/20

  30/1149 […] - ETA: 0s - loss: 0.5199
1149/1149 [==============================] - 0s 43us/step - loss: 0.2189
Epoch 13/20

  30/1149 […] - ETA: 0s - loss: 0.1268
1149/1149 [==============================] - 0s 44us/step - loss: 0.1378
Epoch 17/20

  30/1149 […] - ETA: 0s - loss: 0.1348
1149/1149 [==============================] - 0s 41us/step - loss: 0.4052
Epoch 12/20

  30/1149 […] - ETA: 0s - loss: 0.1029
1149/1149 [==============================] - 0s 39us/step - loss: 0.2055
Epoch 14/20

  30/1149 […] - ETA: 0s - loss: 0.2148
1149/1149 [==============================] - 0s 37us/step - loss: 0.1354
Epoch 18/20

  30/1149 […] - ETA: 0s - loss: 0.1359
1149/1149 [==============================] - 0s 36us/step - loss: 0.3489
Epoch 13/20

  30/1149 […] - ETA: 0s - loss: 0.1581
1149/1149 [==============================] - 0s 36us/step - loss: 0.1939
Epoch 15/20
```

```
  30/1149 […] - ETA: 0s - loss: 0.1605
1149/1149 [==============================] - 0s 36us/step - loss: 0.1331
Epoch 19/20

  30/1149 […] - ETA: 0s - loss: 0.0807
1149/1149 [==============================] - 0s 39us/step - loss: 0.2944
Epoch 14/20

  30/1149 […] - ETA: 0s - loss: 0.2925
1149/1149 [==============================] - 0s 39us/step - loss: 0.1843
Epoch 16/20

  30/1149 […] - ETA: 0s - loss: 0.1445
1149/1149 [==============================] - 0s 38us/step - loss: 0.1309
Epoch 20/20

  30/1149 […] - ETA: 0s - loss: 0.0737
1149/1149 [==============================] - 0s 38us/step - loss: 0.2538
Epoch 15/20

  30/1149 […] - ETA: 0s - loss: 0.3187
1149/1149 [==============================] - 0s 39us/step - loss: 0.1762
Epoch 17/20

  30/1149 […] - ETA: 0s - loss: 0.2161
1149/1149 [==============================] - 0s 41us/step - loss: 0.1300

1149/1149 [==============================] - 0s 38us/step - loss: 0.2176
Epoch 16/20

  30/1149 […] - ETA: 0s - loss: 0.1238
1149/1149 [==============================] - 0s 37us/step - loss: 0.1680
Epoch 18/20

  30/1149 […] - ETA: 0s - loss: 0.1468
1149/1149 [==============================] - 0s 33us/step - loss: 0.1897
Epoch 17/20

  30/1149 […] - ETA: 0s - loss: 0.0926
1149/1149 [==============================] - 0s 34us/step - loss: 0.1607
Epoch 19/20

  30/1149 […] - ETA: 0s - loss: 0.5838
1149/1149 [==============================] - 0s 32us/step - loss: 0.1728
Epoch 18/20

  30/1149 […] - ETA: 0s - loss: 0.0899
```

```
1149/1149 [==============================] - 0s 33us/step - loss: 0.1547
Epoch 20/20

  30/1149 […] - ETA: 0s - loss: 0.1308
1149/1149 [==============================] - 0s 34us/step - loss: 0.1600
Epoch 19/20

  30/1149 […] - ETA: 0s - loss: 0.1874
1149/1149 [==============================] - 0s 35us/step - loss: 0.1493

1149/1149 [==============================] - 0s 31us/step - loss: 0.1514
Epoch 20/20

  30/1149 […] - ETA: 0s - loss: 0.0768
1149/1149 [==============================] - 0s 30us/step - loss: 0.1455
Epoch 1/20
1436/1436 [==============================] - 0s 314us/step - loss: 0.9920
Epoch 2/20
1436/1436 [==============================] - 0s 58us/step - loss: 0.8915
Epoch 3/20
1436/1436 [==============================] - 0s 65us/step - loss: 0.6979
Epoch 4/20
1436/1436 [==============================] - 0s 59us/step - loss: 0.5105
Epoch 5/20
1436/1436 [==============================] - 0s 57us/step - loss: 0.3454
Epoch 6/20
1436/1436 [==============================] - 0s 57us/step - loss: 0.2314
Epoch 7/20
1436/1436 [==============================] - 0s 57us/step - loss: 0.1668
Epoch 8/20
1436/1436 [==============================] - 0s 57us/step - loss: 0.1391
Epoch 9/20
1436/1436 [==============================] - 0s 55us/step - loss: 0.1285
Epoch 10/20
1436/1436 [==============================] - 0s 53us/step - loss: 0.1231
Epoch 11/20
1436/1436 [==============================] - 0s 53us/step - loss: 0.1207
Epoch 12/20
1436/1436 [==============================] - 0s 54us/step - loss: 0.1186
Epoch 13/20
1436/1436 [==============================] - 0s 52us/step - loss: 0.1175
Epoch 14/20
1436/1436 [==============================] - 0s 53us/step - loss: 0.1161
Epoch 15/20
1436/1436 [==============================] - 0s 53us/step - loss: 0.1149
Epoch 16/20
1436/1436 [==============================] - 0s 52us/step - loss: 0.1138
Epoch 17/20
```

```
1436/1436 [==============================] - 0s 54us/step - loss: 0.1125
Epoch 18/20
1436/1436 [==============================] - 0s 52us/step - loss: 0.1117
Epoch 19/20
1436/1436 [==============================] - 0s 52us/step - loss: 0.1111
Epoch 20/20
1436/1436 [==============================] - 0s 54us/step - loss: 0.1104
########## Total Time Taken:  2 Minutes
```

```python
[ ]: print(" Results from Grid Search " )
     print("\n The best estimator:\n",grid_search.best_estimator_)
     print("\n The best score:\n",grid_search.best_score_)
     print("\n The best parameters:\n",grid_search.best_params_)
```

```
 Results from Grid Search

 The best estimator:
 <keras.wrappers.scikit_learn.KerasRegressor object at 0x7f8bc90d0490>

 The best score:
 -0.3997549995191831

 The best parameters:
 {'Optimizer_trial': 'adam', 'batch_size': 20, 'epochs': 20}
Using TensorFlow backend.
Using TensorFlow backend.
Using TensorFlow backend.
Using TensorFlow backend.
Using TensorFlow backend.
Using TensorFlow backend.
Using TensorFlow backend.
Using TensorFlow backend.
```

According to Grid Search results, the best parameters are adam as optimizer, batch size and epoch as 20.

2 Conclusion & Reflection

The model performs alright for the use case but obviously it needs to train on more data to get even better results. I learned more than I thought i knew during this assignment. This model is not ready for real world use cased and it needs more work, I would say. Furthermore, I learned more about neural networks with all the different ways to do analysis and evalution. I can say with confidence that there's a few methods I learned about during this project that i will apply to my group project!!! Also, It was fun playing around with this project/assigment because it's one of the few times i worked on a regression problem. I'm more in tuned with NLP projects because that's where my heart is but this project was a challenge and it was fun.