▾ Mount Drive

```
from google.colab import drive
drive.mount('/content/drive')
```

```
Mounted at /content/drive
```

▾ Prepare the Dataset

Import library

```
!pip install tensorflowjs
```

```
|████████████████████████████████| 77 kB 4.4 MB/s
Collecting packaging~=20.9
  Downloading packaging-20.9-py2.py3-none-any.whl (40 kB)
     |████████████████████████████████| 40 kB 7.6 MB/s
Requirement already satisfied: tensorflow-hub<0.13,>=0.7.0 in /usr/local/lib/python3.7/dist-packages (from tensorflowjs) (0.12.0)
Requirement already satisfied: tensorflow<3,>=2.1.0 in /usr/local/lib/python3.7/dist-packages (from tensorflowjs) (2.8.2+zzzcolab20220527125636)
Requirement already satisfied: six<2,>=1.12.0 in /usr/local/lib/python3.7/dist-packages (from tensorflowjs) (1.15.0)
Requirement already satisfied: pyparsing>=2.0.2 in /usr/local/lib/python3.7/dist-packages (from packaging~=20.9->tensorflowjs) (3.0.9)
Requirement already satisfied: termcolor>=1.1.0 in /usr/local/lib/python3.7/dist-packages (from tensorflow<3,>=2.1.0->tensorflowjs) (1.1.0)
Requirement already satisfied: protobuf<3.20,>=3.9.2 in /usr/local/lib/python3.7/dist-packages (from tensorflow<3,>=2.1.0->tensorflowjs) (3.17.3)
Requirement already satisfied: gast>=0.2.1 in /usr/local/lib/python3.7/dist-packages (from tensorflow<3,>=2.1.0->tensorflowjs) (0.5.3)
Requirement already satisfied: setuptools in /usr/local/lib/python3.7/dist-packages (from tensorflow<3,>=2.1.0->tensorflowjs) (57.4.0)
Requirement already satisfied: grpcio<2.0,>=1.24.3 in /usr/local/lib/python3.7/dist-packages (from tensorflow<3,>=2.1.0->tensorflowjs) (1.46.3)
Requirement already satisfied: h5py>=2.9.0 in /usr/local/lib/python3.7/dist-packages (from tensorflow<3,>=2.1.0->tensorflowjs) (3.1.0)
Requirement already satisfied: wrapt>=1.11.0 in /usr/local/lib/python3.7/dist-packages (from tensorflow<3,>=2.1.0->tensorflowjs) (1.14.1)
Requirement already satisfied: keras-preprocessing>=1.1.1 in /usr/local/lib/python3.7/dist-packages (from tensorflow<3,>=2.1.0->tensorflowjs) (1.1.2)
Requirement already satisfied: absl-py>=0.4.0 in /usr/local/lib/python3.7/dist-packages (from tensorflow<3,>=2.1.0->tensorflowjs) (1.0.0)
Requirement already satisfied: keras<2.9,>=2.8.0rc0 in /usr/local/lib/python3.7/dist-packages (from tensorflow<3,>=2.1.0->tensorflowjs) (2.8.0)
Requirement already satisfied: tensorboard<2.9,>=2.8 in /usr/local/lib/python3.7/dist-packages (from tensorflow<3,>=2.1.0->tensorflowjs) (2.8.0)
Requirement already satisfied: tensorflow-estimator<2.9,>=2.8 in /usr/local/lib/python3.7/dist-packages (from tensorflow<3,>=2.1.0->tensorflowjs) (2.8.0)
Requirement already satisfied: flatbuffers>=1.12 in /usr/local/lib/python3.7/dist-packages (from tensorflow<3,>=2.1.0->tensorflowjs) (2.0)
Requirement already satisfied: google-pasta>=0.1.1 in /usr/local/lib/python3.7/dist-packages (from tensorflow<3,>=2.1.0->tensorflowjs) (0.2.0)
Requirement already satisfied: opt-einsum>=2.3.2 in /usr/local/lib/python3.7/dist-packages (from tensorflow<3,>=2.1.0->tensorflowjs) (3.3.0)
Requirement already satisfied: tensorflow-io-gcs-filesystem>=0.23.1 in /usr/local/lib/python3.7/dist-packages (from tensorflow<3,>=2.1.0->tensorflowjs) (0.26.0)
Requirement already satisfied: numpy>=1.20 in /usr/local/lib/python3.7/dist-packages (from tensorflow<3,>=2.1.0->tensorflowjs) (1.21.6)
Requirement already satisfied: typing-extensions>=3.6.6 in /usr/local/lib/python3.7/dist-packages (from tensorflow<3,>=2.1.0->tensorflowjs) (4.2.0)
Requirement already satisfied: libclang>=9.0.1 in /usr/local/lib/python3.7/dist-packages (from tensorflow<3,>=2.1.0->tensorflowjs) (14.0.1)
Requirement already satisfied: astunparse>=1.6.0 in /usr/local/lib/python3.7/dist-packages (from tensorflow<3,>=2.1.0->tensorflowjs) (1.6.3)
Requirement already satisfied: wheel<1.0,>=0.23.0 in /usr/local/lib/python3.7/dist-packages (from astunparse>=1.6.0->tensorflow<3,>=2.1.0->tensorflowjs) (0.37.1)
Requirement already satisfied: cached-property in /usr/local/lib/python3.7/dist-packages (from h5py>=2.9.0->tensorflow<3,>=2.1.0->tensorflowjs) (1.5.2)
Requirement already satisfied: tensorboard-data-server<0.7.0,>=0.6.0 in /usr/local/lib/python3.7/dist-packages (from tensorboard<2.9,>=2.8->tensorflow<3,>=2.1.0->tensorflowjs
Requirement already satisfied: tensorboard-plugin-wit>=1.6.0 in /usr/local/lib/python3.7/dist-packages (from tensorboard<2.9,>=2.8->tensorflow<3,>=2.1.0->tensorflowjs) (1.8.1
Requirement already satisfied: google-auth<3,>=1.6.3 in /usr/local/lib/python3.7/dist-packages (from tensorboard<2.9,>=2.8->tensorflow<3,>=2.1.0->tensorflowjs) (1.35.0)
Requirement already satisfied: markdown>=2.6.8 in /usr/local/lib/python3.7/dist-packages (from tensorboard<2.9,>=2.8->tensorflow<3,>=2.1.0->tensorflowjs) (3.3.7)
Requirement already satisfied: google-auth-oauthlib<0.5,>=0.4.1 in /usr/local/lib/python3.7/dist-packages (from tensorboard<2.9,>=2.8->tensorflow<3,>=2.1.0->tensorflowjs) (0.
Requirement already satisfied: requests<3,>=2.21.0 in /usr/local/lib/python3.7/dist-packages (from tensorboard<2.9,>=2.8->tensorflow<3,>=2.1.0->tensorflowjs) (2.23.0)
Requirement already satisfied: werkzeug>=0.11.15 in /usr/local/lib/python3.7/dist-packages (from tensorboard<2.9,>=2.8->tensorflow<3,>=2.1.0->tensorflowjs) (1.0.1)
Requirement already satisfied: rsa<5,>=3.1.4 in /usr/local/lib/python3.7/dist-packages (from google-auth<3,>=1.6.3->tensorboard<2.9,>=2.8->tensorflow<3,>=2.1.0->tensorflowjs)
Requirement already satisfied: pyasn1-modules>=0.2.1 in /usr/local/lib/python3.7/dist-packages (from google-auth<3,>=1.6.3->tensorboard<2.9,>=2.8->tensorflow<3,>=2.1.0->tenso
Requirement already satisfied: cachetools<5.0,>=2.0.0 in /usr/local/lib/python3.7/dist-packages (from google-auth<3,>=1.6.3->tensorboard<2.9,>=2.8->tensorflow<3,>=2.1.0->tens
Requirement already satisfied: requests-oauthlib>=0.7.0 in /usr/local/lib/python3.7/dist-packages (from google-auth-oauthlib<0.5,>=0.4.1->tensorboard<2.9,>=2.8->tensorflow<3,
Requirement already satisfied: importlib-metadata>=4.4 in /usr/local/lib/python3.7/dist-packages (from markdown>=2.6.8->tensorboard<2.9,>=2.8->tensorflow<3,>=2.1.0->tensorflo
Requirement already satisfied: zipp>=0.5 in /usr/local/lib/python3.7/dist-packages (from importlib-metadata>=4.4->markdown>=2.6.8->tensorboard<2.9,>=2.8->tensorflow<3,>=2.1.0
Requirement already satisfied: pyasn1<0.5.0,>=0.4.6 in /usr/local/lib/python3.7/dist-packages (from pyasn1-modules>=0.2.1->google-auth<3,>=1.6.3->tensorboard<2.9,>=2.8->tenso
Requirement already satisfied: certifi>=2017.4.17 in /usr/local/lib/python3.7/dist-packages (from requests<3,>=2.21.0->tensorboard<2.9,>=2.8->tensorflow<3,>=2.1.0->tensorflow
Requirement already satisfied: idna<3,>=2.5 in /usr/local/lib/python3.7/dist-packages (from requests<3,>=2.21.0->tensorboard<2.9,>=2.8->tensorflow<3,>=2.1.0->tensorflowjs) (2
Requirement already satisfied: chardet<4,>=3.0.2 in /usr/local/lib/python3.7/dist-packages (from requests<3,>=2.21.0->tensorboard<2.9,>=2.8->tensorflow<3,>=2.1.0->tensorflowj
Requirement already satisfied: urllib3!=1.25.0,!=1.25.1,<1.26,>=1.21.1 in /usr/local/lib/python3.7/dist-packages (from requests<3,>=2.21.0->tensorboard<2.9,>=2.8->tensorflow<
Requirement already satisfied: oauthlib>=3.0.0 in /usr/local/lib/python3.7/dist-packages (from requests-oauthlib>=0.7.0->google-auth-oauthlib<0.5,>=0.4.1->tensorboard<2.9,>=2
Installing collected packages: packaging, tensorflowjs
  Attempting uninstall: packaging
    Found existing installation: packaging 21.3
    Uninstalling packaging-21.3:
      Successfully uninstalled packaging-21.3
ERROR: pip's dependency resolver does not currently take into account all the packages that are installed. This behaviour is the source of the following dependency conflicts.
datascience 0.10.6 requires folium==0.2.1, but you have folium 0.8.3 which is incompatible.
Successfully installed packaging-20.9 tensorflowjs-3.18.0
```

```
import tensorflow as tf
import subprocess
```

Copy dataset from drive

```
rm -rf /content/model10Class.zip
```

```
cp -R /content/drive/MyDrive/indo_food_datasets/jadi/newdataset /content/
```

Unzip file

```
import zipfile
```

```
# Extract the archive
local_zip = '/content/1.zip'
zip_ref = zipfile.ZipFile(local_zip, 'r')
zip_ref.extractall('')
zip_ref.close()
```

```
# local_zip = './rps-test-set.zip'
# zip_ref = zipfile.ZipFile(local_zip, 'r')
# zip_ref.extractall('tmp/rps-test')
# zip_ref.close()
```

Delete unused dataset

```
food_classes = ['soto','pepes', 'mendoan', 'lumpia', 'martabak']
```

```
for food_class in food_classes:
```

```
    subprocess.run(["rm", "-rf", "/content/food-dataset-500/test/"+food_class])
    subprocess.run(["rm", "-rf", "/content/food-dataset-500/train/"+food class])
```

```
cp -R /content/food-dataset-500/train /content/drive/MyDrive/indo_food_datasets/jadi/food-dataset-500
```

```
ls /content/drive/MyDrive/indo_food_datasets/jadi/food-dataset-500/train/klepon | wc -l
```

▾ Model

Build Model Layer

```
model = tf.keras.models.Sequential([
    # Note the input shape is the desired size of the image 150x150 with 3 bytes color
    # This is the first convolution
    tf.keras.layers.Conv2D(32, (3,3), activation='relu', input_shape=(150, 150, 3)),
    tf.keras.layers.MaxPooling2D(),
    # The second convolution
    tf.keras.layers.Conv2D(32, (3,3), activation='relu'),
    tf.keras.layers.MaxPooling2D(),
    # The third convolution
    tf.keras.layers.Conv2D(64, (3,3), activation='relu'),
    tf.keras.layers.MaxPooling2D(),
    # The fourth convolution
    # tf.keras.layers.Conv2D(128, (3,3), activation='relu'),
    # tf.keras.layers.MaxPooling2D(2,2),
    # Flatten the results to feed into a DNN
    tf.keras.layers.Flatten(),
    #tf.keras.layers.Dropout(0.5),
    # 512 neuron hidden layer
    tf.keras.layers.Dense(128, activation='relu'),
    tf.keras.layers.Dense(10, activation='softmax')
])
```

```
# Print the model summary
model.summary()
```

```
    Model: "sequential"

    _____
    Layer (type)                Output Shape              Param #
    =================================================================
    conv2d (Conv2D)             (None, 148, 148, 32)      896

    max_pooling2d (MaxPooling2D  (None, 74, 74, 32)        0
    )

    conv2d_1 (Conv2D)           (None, 72, 72, 32)        9248

    max_pooling2d_1 (MaxPooling  (None, 36, 36, 32)        0
    2D)

    conv2d_2 (Conv2D)           (None, 34, 34, 64)        18496

    max_pooling2d_2 (MaxPooling  (None, 17, 17, 64)        0
    2D)

    flatten (Flatten)           (None, 18496)             0

    dense (Dense)               (None, 128)               2367616

    dense_1 (Dense)             (None, 10)                1290

    =================================================================
    Total params: 2,397,546
    Trainable params: 2,397,546
    Non-trainable params: 0
    _____
```

Compile Model

```
# Set the training parameters
model.compile(loss = 'categorical_crossentropy', optimizer=tf.keras.optimizers.Adam(), metrics=['accuracy'])
```

▾ Prepare the ImageDataGenerator

```
from keras_preprocessing.image import ImageDataGenerator
```

```
TRAINING_DIR = "/content/food-dataset-500/train"
training_datagen = ImageDataGenerator(
    rescale = 1./255,
    rotation_range=40,
    width_shift_range=0.2,
    height_shift_range=0.2,
    shear_range=0.2,
    zoom_range=0.2,
    horizontal_flip=True,
    fill_mode='nearest')
```

```
VALIDATION_DIR = "/content/food-dataset-500/test"
validation_datagen = ImageDataGenerator(rescale = 1./255)
```

```
train_generator = training_datagen.flow_from_directory(
    TRAINING_DIR,
    target_size=(150,150),
    class_mode='categorical',
    batch_size=150
)
```

```
validation_generator = validation_datagen.flow_from_directory(
    VALIDATION_DIR,
    target_size=(150,150),
    class_mode='categorical',
    batch_size=150
    #batch_size=126
)
```

```
Found 4160 images belonging to 10 classes.
Found 1000 images belonging to 10 classes.
```

Train the model and evaluate the results

Define Callback

```python
class myCallback(tf.keras.callbacks.Callback):
  def on_epoch_end(self, epoch, logs={}):
    '''
    Halts the training after reaching 60 percent accuracy

    Args:
      epoch (integer) - index of epoch (required but unused in the function definition below)
      logs (dict) - metric results from the training epoch
    '''

    # Check accuracy
    # if(logs.get('loss') < 0.4):

    #   # Stop if threshold is met
    #   print("\nLoss is lower than 0.4 so cancelling training!")
    #   self.model.stop_training = True
    if(logs.get('val_accuracy') > 0.8 and logs.get('accuracy') > 0.8):
      # Stop if threshold is met
      print("\nVal_accuracy is higher than 0.8 so cancelling training!")
      self.model.stop_training = True

# Instantiate class
callbacks = myCallback()


callbacks = tf.keras.callbacks.ReduceLROnPlateau(monitor='val_loss', factor=0.2,
                          patience=5, min_lr=0.001)
```

Train Model

```python
history = model.fit(train_generator, epochs=150, validation_data = validation_generator, verbose = 1, validation_steps=3, callbacks=[callbacks])
```

```
Epoch 122/150
28/28 [==============================] - 27s 950ms/step - loss: 0.3235 - accuracy: 0.8849 - val_loss: 0.6302 - val_accuracy: 0.8044 - lr: 0.0010
Epoch 123/150
28/28 [==============================] - 28s 1s/step - loss: 0.2935 - accuracy: 0.8990 - val_loss: 0.7502 - val_accuracy: 0.8156 - lr: 0.0010
Epoch 124/150
28/28 [==============================] - 27s 954ms/step - loss: 0.2718 - accuracy: 0.9036 - val_loss: 0.5655 - val_accuracy: 0.8244 - lr: 0.0010
Epoch 125/150
28/28 [==============================] - 27s 946ms/step - loss: 0.2950 - accuracy: 0.8945 - val_loss: 0.5584 - val_accuracy: 0.8244 - lr: 0.0010
Epoch 126/150
28/28 [==============================] - 27s 958ms/step - loss: 0.3019 - accuracy: 0.8959 - val_loss: 0.6952 - val_accuracy: 0.7889 - lr: 0.0010
Epoch 127/150
28/28 [==============================] - 27s 959ms/step - loss: 0.2680 - accuracy: 0.9036 - val_loss: 0.6859 - val_accuracy: 0.8156 - lr: 0.0010
Epoch 128/150
28/28 [==============================] - 27s 953ms/step - loss: 0.2872 - accuracy: 0.8974 - val_loss: 0.5926 - val_accuracy: 0.8200 - lr: 0.0010
Epoch 129/150
28/28 [==============================] - 27s 949ms/step - loss: 0.2947 - accuracy: 0.8969 - val_loss: 0.5775 - val_accuracy: 0.8156 - lr: 0.0010
Epoch 130/150
28/28 [==============================] - 26s 943ms/step - loss: 0.2820 - accuracy: 0.9017 - val_loss: 0.8875 - val_accuracy: 0.7600 - lr: 0.0010
Epoch 131/150
28/28 [==============================] - 27s 962ms/step - loss: 0.3160 - accuracy: 0.8851 - val_loss: 0.6898 - val_accuracy: 0.7956 - lr: 0.0010
Epoch 132/150
28/28 [==============================] - 29s 1s/step - loss: 0.2837 - accuracy: 0.9012 - val_loss: 0.5230 - val_accuracy: 0.8200 - lr: 0.0010
Epoch 133/150
28/28 [==============================] - 27s 950ms/step - loss: 0.2760 - accuracy: 0.9029 - val_loss: 0.5399 - val_accuracy: 0.8422 - lr: 0.0010
Epoch 134/150
28/28 [==============================] - 27s 967ms/step - loss: 0.2810 - accuracy: 0.9005 - val_loss: 0.6409 - val_accuracy: 0.8311 - lr: 0.0010
Epoch 135/150
28/28 [==============================] - 27s 962ms/step - loss: 0.2629 - accuracy: 0.9094 - val_loss: 0.6185 - val_accuracy: 0.8156 - lr: 0.0010
Epoch 136/150
28/28 [==============================] - 27s 963ms/step - loss: 0.2868 - accuracy: 0.8959 - val_loss: 0.6319 - val_accuracy: 0.8067 - lr: 0.0010
Epoch 137/150
28/28 [==============================] - 27s 960ms/step - loss: 0.2949 - accuracy: 0.8988 - val_loss: 0.6330 - val_accuracy: 0.8089 - lr: 0.0010
Epoch 138/150
28/28 [==============================] - 27s 969ms/step - loss: 0.2663 - accuracy: 0.9079 - val_loss: 0.6295 - val_accuracy: 0.8200 - lr: 0.0010
Epoch 139/150
28/28 [==============================] - 27s 954ms/step - loss: 0.2767 - accuracy: 0.9029 - val_loss: 0.8861 - val_accuracy: 0.7756 - lr: 0.0010
Epoch 140/150
28/28 [==============================] - 27s 955ms/step - loss: 0.2762 - accuracy: 0.9038 - val_loss: 0.5534 - val_accuracy: 0.8356 - lr: 0.0010
Epoch 141/150
28/28 [==============================] - 27s 958ms/step - loss: 0.2554 - accuracy: 0.9111 - val_loss: 0.5333 - val_accuracy: 0.8356 - lr: 0.0010
Epoch 142/150
28/28 [==============================] - 27s 949ms/step - loss: 0.2702 - accuracy: 0.9022 - val_loss: 0.7120 - val_accuracy: 0.7822 - lr: 0.0010
Epoch 143/150
28/28 [==============================] - 27s 962ms/step - loss: 0.2796 - accuracy: 0.9046 - val_loss: 0.7233 - val_accuracy: 0.7889 - lr: 0.0010
Epoch 144/150
28/28 [==============================] - 27s 959ms/step - loss: 0.2698 - accuracy: 0.9077 - val_loss: 0.4356 - val_accuracy: 0.8622 - lr: 0.0010
Epoch 145/150
28/28 [==============================] - 29s 1s/step - loss: 0.2755 - accuracy: 0.9036 - val_loss: 0.8728 - val_accuracy: 0.7956 - lr: 0.0010
Epoch 146/150
28/28 [==============================] - 27s 965ms/step - loss: 0.2725 - accuracy: 0.9058 - val_loss: 0.7223 - val_accuracy: 0.7822 - lr: 0.0010
Epoch 147/150
28/28 [==============================] - 27s 976ms/step - loss: 0.2376 - accuracy: 0.9132 - val_loss: 0.5238 - val_accuracy: 0.8422 - lr: 0.0010
Epoch 148/150
28/28 [==============================] - 27s 971ms/step - loss: 0.2505 - accuracy: 0.9101 - val_loss: 0.5822 - val_accuracy: 0.8356 - lr: 0.0010
Epoch 149/150
28/28 [==============================] - 28s 986ms/step - loss: 0.2441 - accuracy: 0.9072 - val_loss: 0.6091 - val_accuracy: 0.8133 - lr: 0.0010
Epoch 150/150
28/28 [==============================] - 27s 969ms/step - loss: 0.2500 - accuracy: 0.9147 - val_loss: 0.6381 - val_accuracy: 0.8511 - lr: 0.0010
```

```python
import matplotlib.pyplot as plt

# Plot the results
acc = history.history['accuracy']
val_acc = history.history['val_accuracy']
loss = history.history['loss']
val_loss = history.history['val_loss']

epochs = range(len(acc))

plt.plot(epochs, acc, 'r', label='Training accuracy')
plt.plot(epochs, val_acc, 'b', label='Validation accuracy')
```
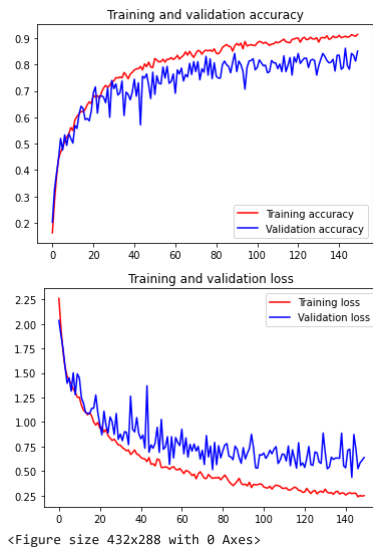
```
plt.title('Training and validation accuracy')
plt.legend(loc=0)
plt.figure()

plt.plot(epochs, loss, 'r', label='Training loss')
plt.plot(epochs, val_loss, 'b', label='Validation loss')
plt.title('Training and validation loss')
plt.legend(loc=0)
plt.figure()

plt.show()
```



```
<Figure size 432x288 with 0 Axes>
```

▾ Model Prediction

```
## CODE BLOCK FOR NON-SAFARI BROWSERS
## SAFARI USERS: PLEASE SKIP THIS BLOCK AND RUN THE NEXT ONE INSTEAD

import numpy as np
from google.colab import files
from keras.preprocessing import image

uploaded = files.upload()

for fn in uploaded.keys():

  # predicting images
  path = fn
  img = image.load_img(path, target_size=(150, 150))
  x = image.img_to_array(img)
  x = np.expand_dims(x, axis=0)

  images = np.vstack([x])
  classes = model.predict(images, batch_size=10)
  print(fn)
  print(classes)


import os
import numpy as np
from google.colab import files
from keras.preprocessing import image
from pathlib import Path


predictDir = [x[0] for x in os.walk('/content/drive/MyDrive/indo_food_datasets/test/')]
del predictDir[0]
predictDir.sort()
presentase = 0
index = 0


for folder in predictDir:
  print('================================================================')
  print('Predict food: ', folder)
  print('================================================================')
  for fn in Path(folder).glob('*.png'):
    # predicting images
    path = os.path.join(folder,fn)
    img = image.load_img(path, target_size=(150, 150))
    x = image.img_to_array(img)
    x = np.expand_dims(x, axis=0)

    images = np.vstack([x])
    classes = model.predict(images, batch_size=10)
    print(fn)
    print(classes)
    print(classes[0,index])
    if classes[0,index] >= np.max(classes) :
      presentase += 1
  presentase = presentase/10
  print('Presentase untuk {} adalah {}'.format(folder, str(presentase)))
  index += 1
  presentase = 0

    0.0
    /content/drive/MyDrive/indo_food_datasets/test/tahu petis/945.png
    [[0. 0. 0. 0. 0. 1. 0. 0. 0.]]
    0.0
```

```
/content/drive/MyDrive/indo_food_datasets/test/tahu petis/950.png
[[0. 0. 0. 0. 0. 0. 0. 0. 1. 0.]]
1.0
/content/drive/MyDrive/indo_food_datasets/test/tahu petis/952.png
[[0. 1. 0. 0. 0. 0. 0. 0. 0. 0.]]
0.0
/content/drive/MyDrive/indo_food_datasets/test/tahu petis/964.png
[[0. 0. 0. 0. 0. 1. 0. 0. 0. 0.]]
0.0
/content/drive/MyDrive/indo_food_datasets/test/tahu petis/967.png
[[0. 0. 0. 0. 0. 0. 1. 0. 0. 0.]]
0.0
/content/drive/MyDrive/indo_food_datasets/test/tahu petis/970.png
[[0.000000e+00 0.000000e+00 0.000000e+00 0.000000e+00 0.000000e+00
  1.000000e+00 0.000000e+00 0.000000e+00 4.780791e-37 0.000000e+00]]
4.780791e-37
/content/drive/MyDrive/indo_food_datasets/test/tahu petis/986.png
[[0. 0. 0. 1. 0. 0. 0. 0. 0. 0.]]
0.0
Presentase untuk /content/drive/MyDrive/indo_food_datasets/test/tahu petis adalah 0.3
=================================================================
Predict food:  /content/drive/MyDrive/indo_food_datasets/test/tumpeng
=================================================================
/content/drive/MyDrive/indo_food_datasets/test/tumpeng/436.png
[[0. 0. 0. 0. 0. 0. 0. 0. 0. 1.]]
1.0
/content/drive/MyDrive/indo_food_datasets/test/tumpeng/687.png
[[0. 0. 0. 0. 0. 0. 1. 0. 0. 0.]]
0.0
/content/drive/MyDrive/indo_food_datasets/test/tumpeng/39.png
[[0. 0. 0. 0. 0. 0. 1. 0. 0. 0.]]
0.0
/content/drive/MyDrive/indo_food_datasets/test/tumpeng/513.png
[[0. 0. 0. 0. 0. 0. 0. 0. 0. 1.]]
1.0
/content/drive/MyDrive/indo_food_datasets/test/tumpeng/295.png
[[0. 0. 0. 0. 0. 0. 0. 0. 0. 1.]]
1.0
/content/drive/MyDrive/indo_food_datasets/test/tumpeng/167.png
[[0. 0. 0. 0. 0. 0. 0. 0. 0. 1.]]
1.0
/content/drive/MyDrive/indo_food_datasets/test/tumpeng/165.png
[[0. 0. 0. 0. 0. 0. 1. 0. 0. 0.]]
0.0
/content/drive/MyDrive/indo_food_datasets/test/tumpeng/383.png
[[0. 0. 0. 0. 0. 0. 1. 0. 0. 0.]]
0.0
/content/drive/MyDrive/indo_food_datasets/test/tumpeng/112.png
[[0. 0. 0. 0. 0. 0. 0. 0. 0. 1.]]
1.0
/content/drive/MyDrive/indo_food_datasets/test/tumpeng/596.png
[[0. 0. 0. 0. 0. 0. 0. 0. 0. 1.]]
1.0
Presentase untuk /content/drive/MyDrive/indo_food_datasets/test/tumpeng adalah 0.6
```

```python
import time
saved_model_path = "./saved_model/{}.h5".format(int(time.time()))

model.save(saved_model_path)
```

```python
!tensorflowjs_converter --input_format=keras {saved_model_path} ./saved_model/js/
```

```python
!zip -r datasetcovercrop_plateau.zip saved_model
```

```
  adding: saved_model/ (stored 0%)
  adding: saved_model/js/ (stored 0%)
  adding: saved_model/js/group1-shard1of3.bin (deflated 7%)
  adding: saved_model/js/model.json (deflated 82%)
  adding: saved_model/js/group1-shard3of3.bin (deflated 7%)
  adding: saved_model/js/group1-shard2of3.bin (deflated 7%)
  adding: saved_model/1654502220.h5 (deflated 27%)
```

```python
model = tf.keras.models.load_model("/content/saved_model/1653899443.h5")
```

Finish

✓ 2s   completed at 2:58 PM   ● ✕