




References

display accuracy vs epochs graph and loss vs epoch graph

Display Deep Learning Model Training History in Keras - Machine Learning Mastery

You can learn a lot about neural networks and deep learning models by observing their performance over time during training. Keras is a powerful library in Python that provides a clean interface for creating deep learning models and wraps the more technical TensorFlow and Theano backends.

 <https://machinelearningmastery.com/display-deep-learning-model-training-history-in-keras/>




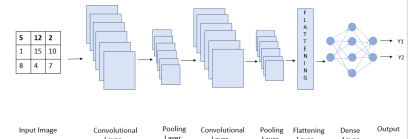
▼ Ques 1- CNN:

Parameters of the Conv2D layers explanation :

Deep Learning with CIFAR-10 Image Classification


Neural Networks are the programmable patterns that helps to solve complex problems and bring the best achievable output. Deep Learning as we all know is a step ahead of Machine Learning, and it helps to train the Neural Networks for getting the solution of questions unanswered and or

 <https://towardsdatascience.com/deep-learning-with-cifar-10-image-classification-64ab92110d79>



aaryaab/CIFAR-10-Image-Classification

Contribute to aaryaab/CIFAR-10-Image-Classification development by creating an account on GitHub.

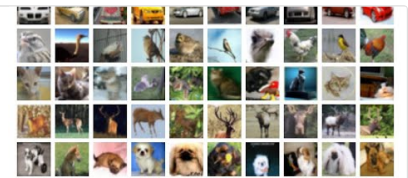
 [https://github.com/aaryaab/CIFAR-10-Image-Classification/blob/main/CIFAR10_DL%20\(1\).ipynb](https://github.com/aaryaab/CIFAR-10-Image-Classification/blob/main/CIFAR10_DL%20(1).ipynb)



CNN Model for CIFAR-10 Dataset

Here, we have tried to develop a CNN based model for classifying the CIFAR10 Dataset.

 <https://www.youtube.com/watch?v=hkQFJY3BzS0>



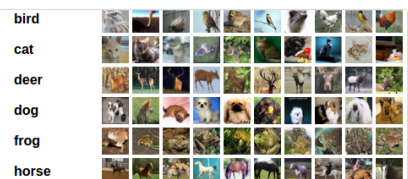
https://github.com/python-engineer/pytorchTutorial/blob/master/14_cnn.py

used 3 blocks of convolution

Deep Learning with Pytorch on CIFAR10 Dataset

You can find source codes here The CIFAR-10 dataset consists of 60000 32×32 colour images in 10 classes, with 6000 images per class. There are 50000 training images and 10000 test images. The dataset is divided into five training batches and one test batch, each with

 <https://zhenye-na.github.io/2018/09/28/pytorch-cnn-cifar10.html>



cnn on mnist dataset

aladdinpersson/Machine-Learning-Collection

A resource for learning about ML, DL, PyTorch and TensorFlow. Feedback always appreciated :) - aladdinpersson/Machine-Learning-Collection



 https://github.com/aladdinpersson/Machine-Learning-Collection/blob/master/ML/Pytorch/Basics/pytorch_simple_CNN.py



Image classification using CNN (CIFAR10 dataset) | Deep Learning Tutorial 24 (Tensorflow & Python)

In this video we will do small image classification using CIFAR10 dataset in tensorflow. We will use convolutional neural network for this image classificati...


 https://www.youtube.com/watch?v=7HPwo4wnJeA&list=PLeo1K3hJS3uu7CxAcxVndI4bE_o3BDtO&index=24

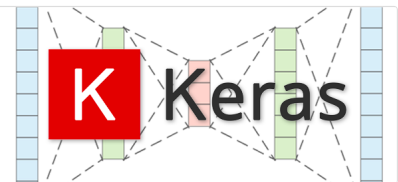


▼ Ques 2 - autoencoders

Autoencoders with Keras, TensorFlow, and Deep Learning - PylmageSearch

In this tutorial, you will learn how to implement and train autoencoders using Keras, TensorFlow, and Deep Learning.


 <https://www.pyimagesearch.com/2020/02/17/autoencoders-with-keras-tensorflow-and-deep-learning/>



SGD with momentum thing

tf.keras.optimizers.SGD | TensorFlow Core v2.4.1


Gradient descent (with momentum) optimizer.

 https://www.tensorflow.org/api_docs/python/tf/keras/optimizers/SGD

Autoencoders for Image Reconstruction in Python and Keras:

Autoencoders for Image Reconstruction in Python and Keras


Introduction Nowadays, we have huge amounts of data in almost every application we use - listening to music on Spotify, browsing friend's images on Instagram, or maybe watching an new trailer on YouTube. There is always data being transmitted from the servers to you. This wouldn't be a problem for a single user.

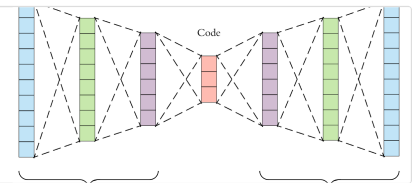
 <https://stackabuse.com/autoencoders-for-image-reconstruction-in-python-and-keras/>

atoencoders vs pca:

Autoencoder and PCA for Dimensionality reduction on MNIST Dataset...(with code).

Here input and output are same in practical application, when Autoencoder is fully trained we remove decoder part and use encoder part in our model. What we Expect from Autoencoder: Sensitive enough to input for accurate reconstruction. Insensitive enough that it does not


 <https://medium.com/@ee18m003/autoencoder-and-pca-for-dimensionality-reduction-on-mnist-dataset-with-code-dace21d87432>

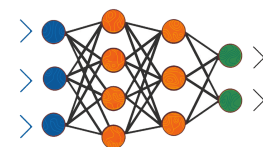


▼ Ques 3 - MLP

A Simple overview of Multilayer Perceptron(MLP)

This article was published as a part of the Data Science Blogathon. Introduction Understanding this network helps us to obtain information about the underlying reasons in the advanced models of Deep Learning. Multilayer Perceptron is commonly used in simple regression problems.

 <https://www.analyticsvidhya.com/blog/2020/12/mlp-multilayer-perceptron-simple-overview/>



Keras - Model Compilation

Previously, we studied the basics of how to create model using Sequential and Functional API. This chapter explains about how to compile the model. The compilation is the final step in creating a model. Once the compilation is done, we can move on to training phase.


 https://www.tutorialspoint.com/keras/keras_model_compilation.htm

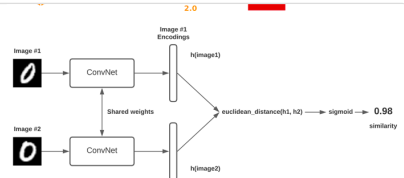


▼ Ques 4 - Siamese network

Siamese networks with Keras, TensorFlow, and Deep Learning - PyImageSearch


In this tutorial you will learn how to implement and train siamese networks using Keras, TensorFlow, and Deep Learning. This tutorial is part two in our three-part series on the fundamentals of siamese networks: Using our siamese network implementation, we will be able

 <https://www.pyimagesearch.com/2020/11/30/siamese-networks-with-keras-tensorflow-and-deep-learning/>



Siamese Network on MNIST Dataset

Siamese Network is a semi-supervised learning network which produces the embedding feature representation for the input. By introducing multiple input channels in the network and appropriate loss functions, the Siamese Network is able to learn to represent similar inputs with similar


 <https://leimao.github.io/article/Siamese-Network-MNIST/>

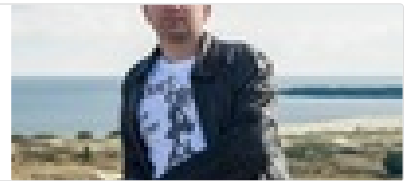


siamese network on MNIST dataset:

Keras siamese network on MNIST

Explore and run machine learning code with Kaggle Notebooks | Using data from Digit Recognizer

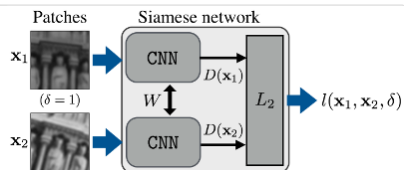
 <https://www.kaggle.com/valerasarapas/keras-siamese-network-on-mnist>



Training Siamese Network on MNIST dataset


A siamese neural network is an artificial neural network that use the same weights while working in tandem on two different input vectors to compute comparable output vectors. Uses of similarity measures where a siamese network might be used are such things as recognizing

▼ <https://connect.vin/2019/09/training-siamese-network-on-mnist-dataset/>



07Agarg/Siamese_Network

My implementation of Siamese Network for MNIST Dataset in Pytorch and Tensorflow - 07Agarg/Siamese_Network

 https://github.com/07Agarg/Siamese_Network/blob/master/Tensorflow/SOURCE/main.py

