Deep Learning

- 딥러닝 이해와 응용 (Raspberry Pi에서 딥러닝) -

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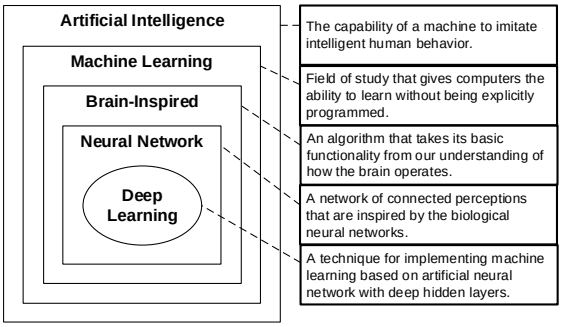
Goals and objectives

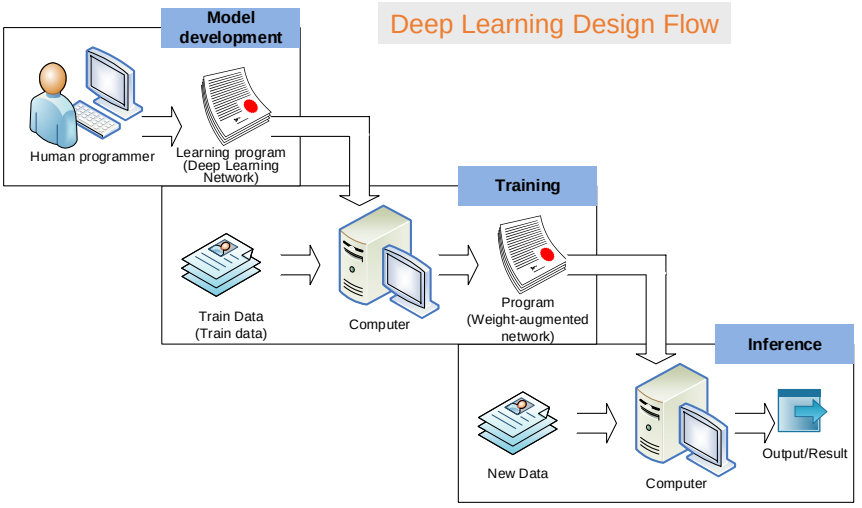
- Goals
  - Understanding of artificial intelligence, machine learning, and deep learning.
  - Acquiring the working knowledge of deep learning model.
  - Practicing development and running deep learning model
- Objectives
  - Understanding of deep neural network
  - Understanding of well known DNN for image classification.
  - LeNet (MNIST), ??? (CIFAR-10), AlexNet (ImageNet).
  - Understanding of Tiny-DNN
    - C++ implementation of DNN
  - Understanding of Python and Numpy
  - Understanding of TensorFlow
  - Understanding of Caffe
  - Understanding of Darknet/YOLO

What have been covered



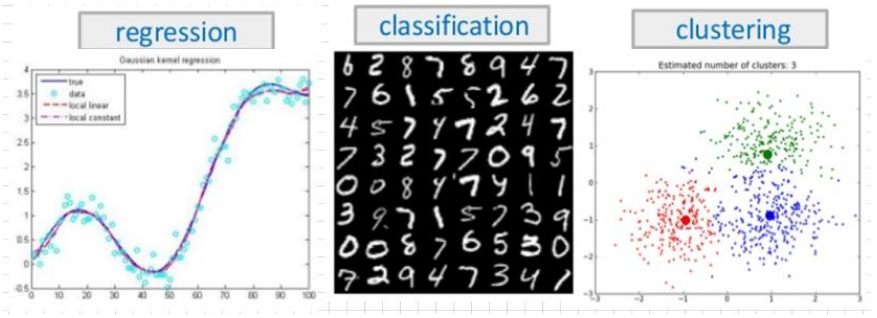
- AI (**인공지능**)
  - **지능적인 사람의 행동/판단을 모사하는 기계의 능력**
- ML (**기계학습**)
  - **명시적인 프로그램하지 않고 컴퓨터가 배우는 능력에 대해 공부하는 영역**
- DL (**딥러닝**)
  - **많은 수의 숨은 레이어를 갖는 인공 뉴론 네트웍에 기초한 기계학습의 구현**

What have been covered



What have been covered

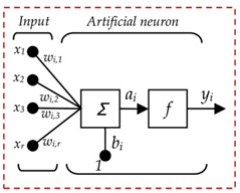
Regression, classification, clustering



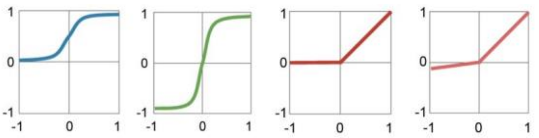
What have been covered

Deep-learning related topics

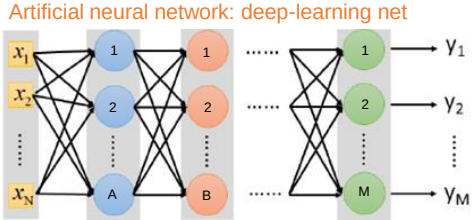
Neuron



Activation functions



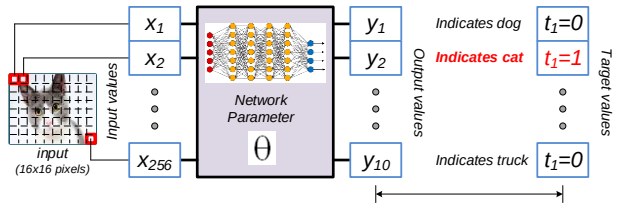
Artificial neural network: deep-learning net

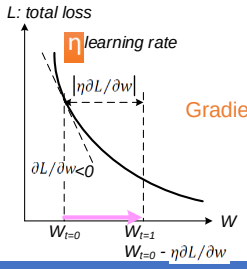


What have been covered

Deep-learning related topics

Cost functions



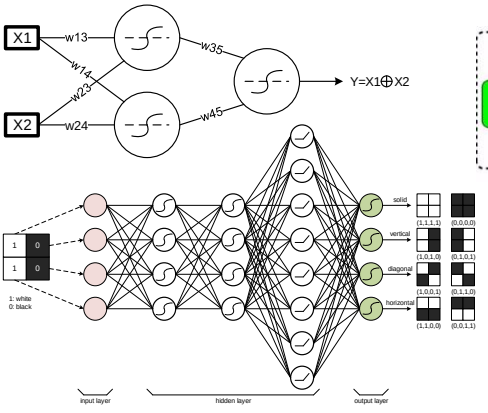


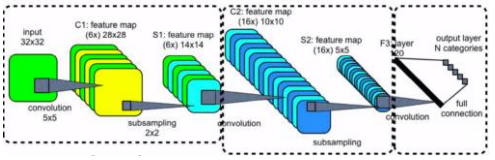
Gradient descent and learning rate

Softmax
CNN
Covolution
Pooling

What have been covered

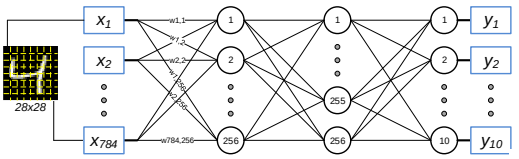
Tiny-Dnn
- header only, dependency free deep learning library written in C++ with C++14 features -



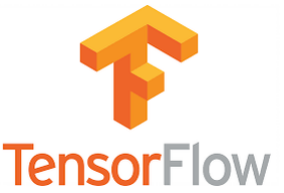


What have been covered

MNIST

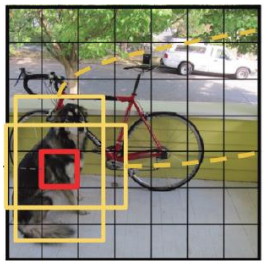


TensorFlow



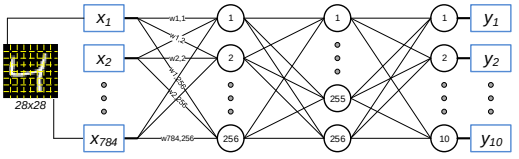
Caffe

YOLO



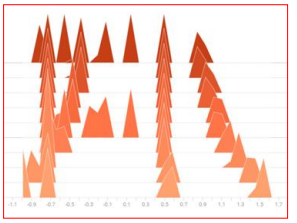
What have been covered

MNIST

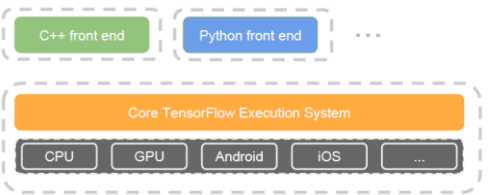


TensorFlow

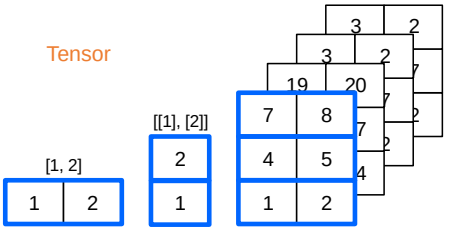
Tensorboard



Structure



Tensor



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