Artificial Neural Network

Instructors:

Sunny Bhaveen Chandra:

Sr. Data Scientist and lecturer at iNeuron.ai with working experience in computer vision, natural language processing and embedded systems. Hands-on experience leveraging machine learning, deep learning, transfer learning models to solve challenging business problems. Also, he has a vast interest in Robotics.

Curriculum:

Introduction

AI | Deep Learning | Evolution of ANNs

• Introduction Preview

• Introduction

Perceptron

Perceptron Implementation

Perceptron Implementation | Python scripting and packaging | Modular coding

Python logging basics in previous codes, docstrings

Python packaging | Github Actions | PyPI

Neural Network

ANN Derivation

ANN implementation using tfkeras

ANN implementation using python scripting

ANN implementation using python scripting continued

Callbacks in Tensorflow

ANN with Callbacks | Tensorboard | Early Stopping | Model Checkpointing

Mathematics in DL

THEORY: Vectors

THEORY DIfferentiation | Partial Diff | Gradients | Ascent and Descent

THEORY Problems in training NN | Vanishing and Exploding gradients

Tensorflow Framework

TF 2x low-level API

TF 2x low-level API PART 2

Activation Function

Activation Function - Started

Activation Function -continued

Activation function final

Weight initialization, Transfer learning, Batch Normalization

Weight initialization and Transfer learning

Batch Normalization: Theory and Practical

MLFlow

Optimizers, Regularization and Loss function

Fast Optimizers | Momentum Optimization

NAG

AdaGrad

RMS Prop | Adam

Regularization | Dropout | Loss function