Radical TECHNOLOGIES

AI WITH MACHINE AND DEEP LEARNING

DURATION OF TRAINING: 60HRS.
BATCH TYPE: WEEKDAYS/ WEEKENDS
MODE OF TRAINING: CLASSROOM/ ONLINE/ CORPORATE TRAINING

PROJECT 1 :

Introduction with Artificial Intelligence

- What is AI (Artificial Intelligence) ?
- What types of intelligences we are talking about?
- Different definitions and Ultimate goal of AI.
- What are application areas for AI?
- History of AI and some real life examples of AI.

ML and other related terms to AI

- What is ML and How it is related with AI?
- What is NLP and How it is related with AI?
- What is DL and How it is related with ML and AI?
- What are ANNs and DNNs and How are they related to AI?

A working example of AI and ML

Project 1 – These simple tasks are to make you understand how AI and ML can find their applications in real life.

Python libraries for ML

- What are Libraries, packages and Modules?
- What are top Python libraries for ML in Python?

Setting up Anaconda development environment

- Why choosing Anaconda development environment?
- Setting up Anaconda development environment on Windows 10 PC.
- Verifying proper installation of Anaconda environment.

Getting into core development of ML

- What is a classifier in ML?
- Important elements and flow of any ML projects.
- Let's develop our first ML program – explanations
- Let's develop our first ML program – development

PROJECT 2 :

These simple tasks are going to give you some great experience with Machine Learning introductory programs or better say, "Hello world" programs of Machine Learning.

Different ML techniques

- What all ML techniques are there?
- Evaluation methods of all ML techniques.

Developing complete project of ML (IRIS flower project)

- Developing complete ML project – understanding data set
- Developing complete ML project – understanding flow of project
- Developing complete ML project – visualizing data set through Python
- Developing complete ML project – development
- Developing complete ML project – concepts explanations
- Developing another project of ML (Digit recognition project)

PROJECT 3 :

- After completing these project, you have done and understood multiple complete projects of Machine Learning.

Introduction of Ai with Deep Learning

- Installation
- CPU Software Requirements
- CPU Installation of PyTorch
- PyTorch with GPU on AWS
- PyTorch with GPU on Linux
- PyTorch with GPU on MacOSX

PyTorch Fundamentals : Matrices

- Matrix Basics
- Seed for Reproducibility
- Torch to NumPy Bridge
- NumPy to Torch Bridge
- GPU and CPU Toggling
- Basic Mathematical Tensor Operations
- Summary of Matrices

PyTorch Fundamentals: Variables and Gradients

- Variables
- Gradients
- Summary of Variables and Gradients

Linear Regression with PyTorch

- Linear Regression Introduction
- Linear Regression in PyTorch
- Linear Regression From CPU to GPU in PyTorch
- Summary of Linear Regression

Logistic Regression with PyTorch

- Logistic Regression Introduction
- Linear Regression Problems
- Logistic Regression In-depth
- Logistic Regression with PyTorch
- Logistic Regression From CPU to GPU in PyTorch
- Summary of Logistic Regression

Feedforward Neural Network with PyTorch

- Logistic Regression Transition to Feedforward Neural Network
- Non-linearity
- Feedforward Neural Network in PyTorch
- More Feedforward Neural Network Models in PyTorch
- Feedforward Neural Network From CPU to GPU in PyTorch
- Summary of Feedforward Neural Network

Convolutional Neural Network (CNN) with PyTorch

- Feedforward Neural Network Transition to CNN
- One Convolutional Layer, Input Depth of 1
- One Convolutional Layer, Input Depth of 3
- One Convolutional Layer Summary
- Multiple Convolutional Layers Overview

- Pooling Layers
- Padding for Convolutional Layers
- Output Size Calculation
- CNN in PyTorch
- More CNN Models in PyTorch
- CNN Models Summary
- Expanding Model's Capacity
- CNN From CPU to GPU in PyTorch
- Summary of CNN

Recurrent Neural Networks (RNN)

- Introduction to RNN
- RNN in PyTorch
- More RNN Models in PyTorch
- RNN From CPU to GPU in PyTorch
- Summary of RNN

Long Short-Term Memory Networks (LSTM)

- Introduction to LSTMs
- LSTM Equations
- LSTM in PyTorch
- More LSTM Models in PyTorch
- LSTM From CPU to GPU in PyTorch
- Summary of LSTM

PROJECT 4 :

Churn Modelling using ANN	Mini
Image Classification	Mini
Image classification using Transfer learning	Major
Sentence Classification using RNN,LSTM,GRU	Mini
Sentence Classification using word embeddings	Major
Object Detection using yolo	Major

Note : Depends upon Trainers above projects may vary

EDA on movies database	Mini
House price prediction using Regression	Mini
Predict survival on the Titanic using Classification	Mini
Image Clustering	Mini
Document Clustering	Mini
Twitter US Airline Sentiment	Major
Restaurant revenue prediction	Major
Disease Prediction	Major

Note : Depends upon Trainers above projects may vary

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