ML for Cloud Computing

Course Objectives

The objective of this program is to introduce Industrial ML for Cloud Computing with real time Applications design using Python Programming, available cloud computing platforms ,implementation of ML Algorithms in performing Image processing, text to speech processing, Chabot and Face recognition, Text extract from Images.

Course Outcomes

- Exposure to industrial python programming.
- Brief explanation about Cloud Computing, applications.
- Exposure to methodology of CNN Algorithm, Predict methods for prediction.
- Communication Modules interfacing for secured communication.’ Image Processing and Sound Processing using ML.
- Text to Speech Conversion, Speech Processing for speech controlled applications.
- Building an ANN from scratch, weights and biases for object detection using ML.
- Types of optimization algorithms, Types of ANN, Building ANN with tensor flow.
- Chatting bot API Development using ML and deploying same in cloud infrastructure.

Lab Requirements

Sl No	Name	Description
1	Lecturing Hall	Projector facility.
2	Computer Lab	Computers with Win7/8/10 OS, Internet connections.

Day 1

Dates	Topics Covered
–	Introduction to ML, History and Industrial requirement for ML Implementation. Brief discussion about difference between AI and ML Theory of AI, Sample application using AI & ML ML algorithm structure, Live examples of ML, ML careers opportunities. Writing program for basic ML applications using python programming language. Introduction to installation of required wheel files for library development in python.

Day 2

Dates	Topics Covered
–	Introduction to methodology for developing AWS Cloud account, instance creation. Packaging the python program for deploying in cloud infrastructure. Brief explanation about Building an ANN from scratch. Weights and biases Exercises on Text to Speech , Speech to text experiments to development user friendly ML Applications. Experiment on Texstract features of Cloud Computing and Implementing same on Cloud.

Day 3

Dates	Topics Covered
—	AI aided Designing Training AI and ML to develop a intelligent Chabot. Need of ML algorithm for user interactive Chabot development. Installation of necessary libraries for Chabot application development. Discussion about what is NLTK (Natural Language Toolkit). Language settings for specified region for user interactive ChatBot Development. Training Chabot for customized questions. Live Project development of User Interactive AI Chabot using ML. Implementation of same on Cloud infrastructure.

Day 4

Dates	Topics Covered

–	• Introduction to implementation of image processing using python. • Face Emotion Recognition application development using Python and ML. • Installation of necessary libraries. • Live video and image processing using OpenCV library. • Face recognition application to provide automation response from program on detection of emotion. • Updating python program for Voice Output of response. • Developing and installation of Sound Recognition system on Cloud Computing platform.

Hence we hope you would like to avail the opportunity for your students to gain the experience for their cumulative growth.

Let's join hands in the journey of making India the next Tech capital of this world.