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Artificial Intelligence Course Syllabus

Module 1: Introduction to Data Science

What is Data Science?

What is Machine Learning?

What is Deep Learning?

What is AI?

þÿ Data Analytics & its types

Module 2: Introduction to Python

What is Python?

Why Python?

Installing Python

Python IDEs

Jupyter Notebook Overview

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Module 3: Python Basics

Python Basic Data types

Lists

Slicing

IF statements

Loops

Dictionaries

Tuples

Functions

Array

Selection by position & Labels

Module 4: Python Packages

Pandas

Numpy

Sci-kit Learn

Mat-plot library

Module 5: Importing Data

Reading CSV files
Saving in Python data
Loading Python data objects
Writing data to csv file

Module 6: Manipulating Data

Selecting rows/observations
Rounding Number
Selecting columns/fields
Merging data
Data aggregation
Data munging techniques

Module 7: Statistics Basics)

Central Tendency Mean Median Mode Skewness Normal Distribution

Probability Basics

What does mean by probability?

Types of Probability ODDS Ratio?

Standard Deviation

Data deviation & distribution Variance

Bias variance Trade off

Underfitting Overfitting



Distance metrics

Euclidean Distance

Manhattan Distance

Outlier analysis

What is an Outlier?

Inter Quartile Range

Box & whisker plot

Upper Whisker

Lower Whisker

Scatter plot

By Cooks Distance

Missing Value treatment

What is a NA?

Central Imputation

KNN imputation

Dummification

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Correlation

Pearson correlation

Positive & Negative correlation

Module 8: Error Metrics

Classification

Confusion Matrix

Precision

Recall

Specificity

F1 Score

Regression

MSE

RMSE

MAPE

Module 9: Machine Learning Supervised Learning

Linear Regression Linear Equation

Slope

Intercept

R square value

Logistic regression

ODDS ratio

Probability of success

Probability of failure Bias Variance Tradeoff

ROC curve

Bias Variance Tradeoff

Unsupervised Learning

K-Means

K-Means ++

Hierarchical Clustering

SVM

Support Vectors

Hyperplanes

2-D Case

Linear Hyperplane

SVM Kernal

Linear

Radial

Polynomial

Other Machine Learning algorithms

By Nearest Neighbor

Naïve Bayes Classifier

By Decision Tree CART

By Decision Tree C50

Random Forest



Module 10: ARTIFICIAL INTELLIGENCE

AI Introduction

Perceptron
Multi-Layer perceptron
Markov Decision Process
Logical Agent & First Order Logic
AL Applications

Module 11: Deep Learning Algorithms

By RNN Recurrent
By ANN Artificial Neural Network
Introduction to NLP
Text Pre-processing
Noise Removal
Lexicon Normalization
Lemmatization

Object Standardization

Stemming

By CNN Convolutional

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Text to Features (Feature Engineering)

Syntactical Parsing
Dependency Grammar
Part of Speech Tagging
Entity Parsing
Named Entity Recognition
Topic Modelling
N-Grams

Frequency / Density Features

By Word Embeddings

By TFIDF

Tasks of NLP

Text Classification
Text Matching
Levenshtein Distance
Phonetic Matching
Flexible String Matching





ABOUT US

Who We Are:

We the FSM have remained a premier provider of business transformational solutions, assisting our valuable clients to completely revolutionize their customer management activities. Backed by extensive experience with similar architectures, we are skilled at anticipating potential risks and developing risk mitigation plans. Successful planning and implementation of an enterprise-level contact center and UC project deliveries has our track record. What sets us apart from the competition and makes us an ideal partner for your support requirements? – It is the pursuit of excellence in providing:

- Enhanced Technical Capabilities
- Experience and Proven Success
- Reduced Costs

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Why Consulting Us?

As a leading institution for IT network training in the country, headquartered in Bangalore, we started our program in the year 2014. The center has been providing training across multiple CISCO systems including Security, Collaboration, Routing & Switching, Data Center, Wireless, Service Provider, UCCX, UCCE, CVP ETC, and Microsoft Skype for Business 2015. The labs, equipped with the latest technology hardware equipment, are open around the clock for the students.

We provide the most sought after programs in IT – the prestigious Cisco powered Unified Communication (Cisco Spark & Microsoft Skype for Business), and CCIE training and



Certification. The training provides holistic knowledge and practical experience resulting in creating the best engineers in networking industry.

Our pool of certified trainers with a total of 25+ years of industry experience has been proved efficient and successful time and again by the numbers of students placed. We maintain uncompromised commitment of ensuring that every student is job-ready at the end of the course.

