**DATA SCIENCE**

* Introduction Data Science Project Lifecycle
* Introduction to Types of Analytics- Project life cycle
* Introduction To Python Basic Statistics
* High-Level overview of Data Science / Machine Learning project• management methodology The various Data Types namely continuous, discrete, categorical,• count, qualitative, quantitative and its identification and application. Further classification of data in terms of Nominal, Ordinal, Interval and Ratio types Random Variable and its definition•
* Data and its types
* Probability and Probability Distribution – Continuous probability• distribution / Probability density function and Discrete probability distribution / Probability mass function.
* Population• What is Sampling Funnel, its application and its components• Sampling frame• Simple random sampling• Sample• Measure of central tendency• Mean / Average• Median• Mode• Measure of Spread• Variance• Standard Deviation• Range•
* Various graphical techniques to understand data• Bar plot• Histogram• Box plot• Installation of Python IDE• Scatter plot• Anaconda and Spyder• Working with Python with some basic commands
* Machine learning Introuduction
* Types of Machine learning
* Supervised learning
* Unsupervised learning
* Reinforcement learning
* Linear Regression
* Introduction to Simple Linear Regression
* Multiple Linear Regression
* Mean Squared error
* Ordinary least squares•
* Splitting the data into training, validation and testing datasets•
* Understanding Overfitting (Variance) vs Underfitting (Bias)•
* Generalization error and Regularization techniques•
* Machine learning Classifiers and regressors
* Logistic Regression•
* Multiple Logistic Regression•
* Confusion matrix•
* False Positive, False Negative•
* True Positive, True Negative•
* Naïve Bayes Algorithm
* Bayes Theorem
* Decision Tree
* Random Forest
* K-Nearest neighbor
* Support Vector Machine
* Unsupervised Learning
* K-Means Clustering
* Reinforcement Learning
* Supervised vs Unsupervised learning
* Real time example dataset prediction
* Weather Forecasting
* Disease prediction
* Credit card fraud analysis
* Stock market prediction