**Machine Learning**

**Prerequisites: Participants should have Python Knowledge**

**Duration: 4 days**

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| **Course -2**: **Machine Learning** |
| What is Data Science? |
| What is Machine Learning? |
| What is Deep Learning? |
| What is AI? |
| Linear Regression |
| Linear Equation- Slope Intercept |
| R square value |
| Regression |
| MSE |
| RMSE |
| Practical Implementation-Linear Regression |
| Logistic regression |
| Confusion Matrix |
| Precision |
| Recall |
| Specificity |
| F1 Score |
| Practical Implementation-Logistic Regression |
| Underfitting |
| Overfitting |
| Euclidean Distance |
| Manhattan Distance |
| Bias Variance Trade off |
| K Nearest Neighbour |
| Naïve Bayes Classifier |
| Practical Implementation-KNN, Naïve Bayes |
| Hyperplane |
| SVM |
| Practical Implementation-SVM |
| Decision Tree |
| Bagging |
| Practical Implementation-Decision Tree and Bagging |
| Boosting techniques |
| Practical Implementation- Boosting |
| Introduction to Unsupervised Learning |
| Revision on Supervised Learning |
| K-Means |
| Hierarchical Clustering |
| Practical Implementation-K Means, Hierarchial |
| Feature Engineering |
| Cross validation Techniques |
| Up sampling and Down Sampling |
| Hyperparameter Tuning |
| Model Tuning |