

Contact us @



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Highlights

- √ 20 days workshop.
- √ 1.5 hours per day.
- ✓ Flexible timings 7:30- 9.00 PM
- ✓ Hands-on experience with Python.
- ✓ Real-world projects.
- ✓ Online mode.
- √ No class on special days.
- √ Video recordings will be available
- √ E-certificate of participation

Coordinator and Instructor: Venkateswara Rao Kagita, Department of C Program

30 hours online shortterm course on Machine Learning with Python: Basics to Advanced (21st October – 12th November, 2025)

Course Content

> Introduction

What is Data Science, Real-life examples and Applications, Data Scientist roles, Machine Learning vs. Data Science vs. Al, Machine Learning types, Generics of ML approaches.

Python Essentials

Data manipulation tools, NumPy, Pandas, Visualization, Scikit-Learn.

Probability Concepts for Machine Learning

Basic probability theory, Random variables, Probability distributions, Bayesian theorem.

- Regression Analysis
 - Univariate linear regression, Multivariate linear regression, Polynomial Regression, Applications.
- > Classification
 - Logistic regression, SVM, Multi-class SVM, Decision trees, Naïve Bayes, Applications.
- > Ensemble Approaches
- Bagging, Random Forests, Boosting: Adaboost, Gradient boosting, Applications.
- > Optimization

Gradient descent, Stochastic gradient descent, Batch gradient descent.

> Clustering

Different clustering approaches and applications.

> Feature Engineering

Feature Scaling, Feature Selection: Filter methods, Wrapper methods, Embedded methods.

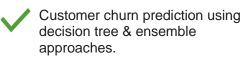
- Dimensionality Reduction
 - Principal component analysis, Linear discriminative analysis, Multiple discriminant analysis.
- Neural Networks

Introduction to neural networks, Back propagation algorithm and theory behind, Introduction to deep learning.

- > Reinforcement Learning
 - Markov Decision Process, Planning, Estimation, Control and Applications.
- > Recommendation Systems
 - Introduction, Types of recommender systems, Content-based, Collaborative filtering: Matrix factorization based approaches, Knowledge-based, and Hybrid techniques, Times series forecasting, other real time examples.
- Hands-on to the majority of the topics using Python.

Projects



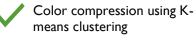




Handwriting digit recognition using neural network.



Diabetics prediction using logistic regression.





Self-Driving Cabs using Q-Learning



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Category	Amount
Academic	Rs. 1000/-
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