



Contact us @



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Highlights

- ✓ 10-day workshop.
- ✓ 2 hours per day.
- ✓ Flexible timings 7:00- 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

**Program Coordinators: Dr. M.
Sandhya, Dr. K.V. Kadambari, Dr.
K.V. Rao, Department of CSE,
NIT Warangal**

**Online short-term
course on
Machine Learning with
Python
(24th November – 4th
December, 2025)**

Course Content

➤ Introduction

What is Data Science, Real-life examples and Applications, Data Scientist roles, Machine Learning vs. Data Science vs. AI, 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

- ✓ House price prediction using regression techniques.
- ✓ Customer churn prediction using decision tree & ensemble approaches.
- ✓ Handwriting digit recognition using neural network.
- ✓ Diabetics prediction using logistic regression.
- ✓ Color compression using K-means clustering
- ✓ Self-Driving Cabs using Q-Learning



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Account Details

Registration Fee	Rs. 1000/-	Account Number	62266262236
Prerequisite	Machine Learning Course	Account Name	Director Research Account
Who can register?	UG, PG, PhD students, Faculty, and Industry experts.	Bank Name:	State Bank of India
Deadline	22 nd November. Note: We may close the form early if the allocated number of registrations is reached.	Branch:	NIT Warangal
		IFSC Code	SBIN0020149

Registration link: <https://forms.gle/jErQRrzPNBvoBw4x7>