COURSE SYLLABUS

Python Machine Learning Course Online

Master the basics of machine learning, including regression analysis and classification algorithms, in this hands-on course. Develop the skills required to tackle real-world challenges using machine learning, with an emphasis on Python programming and key data science libraries.

> Group classes (Live Online) and onsite training are available for this course. For more information, email partnerships@vdci.edu or visit: https://vdci.edu/courses/python-machine-learning-course-online



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Course Outline

Fundamentals

Basic Regression Analysis

- Linear Regression
- Mean squared error
- Training set vs Test set
- Cross validation

Advanced Regression Analysis

- Multi-linear regression
- Feature engineering
- Overfitting

Classification

Logistic Regression

- Regression vs Classification
- Logistic Regression
- Sigmoid function

K-nearest Neighbors

- K-nearest neighbors
- Model-based vs memory-based
- Parametric vs non-parametric
- Evaluating performance

Decision Trees

Decision Trees

- Decision tree
- Interpretability
- Bias-variance tradeoff

Random forest

- Random forest
- Ensemble methods
- Hyperparameters

Final Portfolio Project