



Fondamenti di Analisi dei Dati

9 CFU

from data analysis to predictive techniques

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Corso di Studi in Informatica

Dip. di Matematica e Informatica

Università di Catania



Università
di Catania

Data Analysis

Understanding your data

- Description & Visualization
- Probability & Distributions
- Association & Correlation
- Inference & Statistical Tests
- Linear & Logistic Regression
- Causal Analysis & Storytelling

Predictive Techniques

Using data to make predictions

- Classification & Regression
- Overfitting & Regularization
- Baselines & Evaluation Measures
- Cross-validation & Model Selection
- Generative Classifiers

Data Representation

Revealing structure in the data

- Data Representation & Feature Extraction
- Clustering
- Density Estimation
- Dimensionality Reduction (PCA)
- Data Interpretation

Skills You Will Learn

Theoretical and practical data analysis skills

- Python for Data Science
- Data Acquisition & Management
- Data Cleaning & Preprocessing
- Exploratory Data Analysis
- Data Visualization
- Predictive Modeling

Career Paths

The course provides the foundations to become

- Data Analyst
- Business Intelligence (BI) Analyst
- Data Scientist
- Research Scientist
- Analytics Consultant
- Machine Learning Engineer

Lectures

72 hours of lectures covering formal concepts and data analysis examples in Python

Exams

Two paths: in itinere tests and a project, or a standalone written exam and a project

In itinere tests

+

Guided group project

OR

Written exam

+

Individual project

Theses & Internships



Info & Notes

open source on GitHub