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ALESSANDRO PIANA

ABOUT ME

I am a student of M.Sc. in Mathematical Engineering - Statistical Learning. My main interests concern probability, statistics and how they can be applied in various fields.

LinkedIn Profile: www.linkedin.com/in/alessandro-piana-a87868211

GitHub Profile: https://github.com/alepiana

EXPERIENCE

WATER & LIFE LAB – ENTRATICO, BG (JUN 2018)

Stage - Laboratory technician

THE MORETON HALL – BURY ST. EDMUNDS, UK (SEPT 2018)

Pub Waiter

PRIVATE TUTOR – ONLINE (2018-PRESENT)

I give private lessons in high school math and physics

EDUCATION

POLITECNICO DI MILANO – M.SC. MATHEMATICAL ENGINEERING (2022-PRESENT)

Relevant courses: Algorithm and Parallel Computing (C++), Artificial Neural Networks and Deep Learning, Stochastic Dynamical Models, Applied Statistics, Bayesian Statistics, Computational Statistics, Machine Learning, Model Identification and Data Analysis

GPA: 27.46/30

POLITECNICO DI MILANO – B.SC. IN INGEGNERIA MATEMATICA (2019-2022)

Relevant courses: Mathematical Analysis (1,2,3), Experimental Physics (1,2), Statistics, Models and Methods for Statistical Inference, Probability, Foundations of Operations Research, Mathematical Finance, Linear Algebra & Geometry, Informatics (C)

Grade: 102/110

CENTRO SCOLASTICO "LA TRACCIA" – LICEO SCIENTIFICO

Grade: 96/100

PROJECTS

COMPARATIVE ANALYSIS OF HYDROCARBON CONCENTRATIONS IN MILANO AND SCHIVENOGLIA (MN) AIR QUALITY MONITORING SITES

I conducted the report writing and formalization in **LaTeX**, analyzing and coding in **R** hydrocarbon data from Lombardy (2018-2022), with a baseline model from literature for advanced model evaluation.

SURVIVAL PREDICTION OF PATIENTS WITH COLORECTAL LIVER METASTASES

This project predicts survival outcomes for colorectal liver metastases using clinical and radiomic data. I wrote the report in LaTeX and focused on survival analysis performing feature extraction, coding in R, optimizing with cross-validation, and comparing models from different feature combinations.

IMPLEMENTATION OF A CONVOLUTIONAL NEURAL NETWORK FOR IMAGE CLASSIFICATION

I developed and implemented a Convolutional Neural Network (CNN) in Python to classify plant images into eight categories, refining the model through data preprocessing, training, and optimization to achieve high accuracy across multiple datasets.

BODY COMPOSITION ANALYSIS: ESTIMATING BODY FAT IN A SAMPLE OF 250 ADULT MEN

I conducted a comprehensive analysis of body measurements from 250 adult men to estimate body fat mass using advanced linear regression models and residual analysis in R to identify anomalies and develop a reliable predictive model.

VOLATILITY PREDICTION IN FINANCIAL MARKETS

I explored methodologies for calculating and forecasting short-term volatility using granular financial data in Python, focusing on feature engineering, model development, and performance assessment to enhance prediction accuracy.