

# ALESSANDRO PIANA

DATA SCIENTIST  
POLIMI - M.Sc. MATHEMATICAL  
ENGINEERING



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## About Me

M.Sc. graduate in Mathematical Engineering at Politecnico di Milano, specialized in 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](https://www.linkedin.com/in/alessandro-piana-a87868211)

**GitHub Profile:** <https://github.com/alepiana>

## Experience

### DEIX S.r.l. (Sept 2025 - Present)

Data Scientist

Developed and extended an AI agent framework to extract and validate structured outputs from configuration files using Pydantic, enhancing flexibility and speed of deployment. Applied agents for structured data extraction from unstructured sources, KPI definition, and dashboard development. Performed data analysis and predictive modeling on composite material datasets to estimate key physical properties using Gaussian Processes. **TypeScript, Python, pandas, NumPy, scikit-learn, Poetry, Micromamba, LangChain, LangGraph, AWS, Visual Studio Code.**

### HUMAN TECHNOPOLE (Nov 2024 - Mar 2025)

Scientific Visitor

Master Thesis project: A Flexible Digital Twin Approach for ICU Glucose Management.

Tools: **Python, R, Spline Regression, Probabilistic Graphical Models, Reinforcement Learning.**

### PRIVATE TUTOR (2018 - 2025)

I gave private lessons in math and physics for high school & university students.

## Education

### 2022 - 2025

Politecnico di Milano

**Master of Science  
Mathematical  
Engineering**

OOP principles (C++), Continuous and Discrete Markov Chains, Data-Driven Black-Box System Identification, Advanced Regression Method, Classification and Clustering, Bayesian Statistics, Time Series Analysis and Modeling, Life and Non-life Insurance, Neural Network and Deep Learning. All the courses were held in English.

### 2019 - 2022

Politecnico di Milano

**Bachelor of Science  
Mathematical  
Engineering**

Programming (C, R, AMPL and SQL), Mathematical Analysis (I,II,III), Probability and Markov Chains, Statistics and Statistical Inference, Rational Mechanics, Operations Research and Algorithms.

Member of AIM (Associazione Ingegneri Matematici): student association focused on events, networking, training courses, and promotion of the Mathematical Engineer role.

## Projects

### SURVIVAL PREDICTION OF PATIENTS WITH COLORECTAL LIVER METASTASES

Logistic Regression, Clustering, Classification, Survival Analysis, Kaplan-Meier Estimator, R, LaTeX

### IMPLEMENTATION OF A CONVOLUTIONAL NEURAL NETWORK FOR IMAGE CLASSIFICATION

Deep Learning, Neural Network, Convolutional Neural Network, Optimization, Python

### A FLEXIBLE DIGITAL TWIN APPROACH FOR ICU GLUCOSE MANAGEMENT

Probability, Statistics, Natural Spline Estimate, Markov chain, Reinforcement Learning, Dynamic Decision Networks, Personalized Medicine, Python, LaTeX

## Skills

**Programming languages:** C, C++, Python, R, MATLAB, AMPL.

**Python libraries:** Pandas, NumPy, TensorFlow, scikit-learn, seaborn, Matplotlib, pgmpy.

**Language skills:** English – TOEIC Listening & Reading 945/990; M.Sc. program entirely taught in English.