# Pietro Bonardi

< Machine Learning Engineer / Data Scientist>

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## About me.

Applied Machine Learning Engineer specializing in building production-ready ML systems, risk models and scalable MLOps pipeline in the financial industry. [personal-website]

## Work Experiences.

**ML Engineer | Data Scientist @ ING** Milan, IT [Nov.2022-Present]

- Architected a feature creation engine that generates 500+ features via YAML, reducing setup time from days to hours. Auto-generates DAG for execution optimization (DFS & caching). Adopted by 10+ engineers across multiple projects.
- Built and deployed an early warning signal system to predict delinquencies across ING products. Fully orchestrated via Airflow, enabling continuous alerting at-risk accounts. This led to a 40% increase in recovery rates.
- Developed a standardized Streamlit-based monitoring tool, able to generate reports. Automates nearly all monitoring tasks.
- Engineered a scalable ML batch pipeline enabling ING to provide an always on pre-approved loan offer for customers. Bringing a 2x YoY increase in loan disbursement.
- Led internal Python for Data Science course, successfully training 20+ professionals per cohort.

<\>. PySpark I MLflow I Airflow I Optuna I AWS I Bash I CI/CD Pipelines I Streamlit

**Data Science intern @ Fastweb** Milan, IT [Mar.2021-Nov.2021]

- Developed a machine learning classifier designed to drive remuneration processes by predicting salary bands.
- Applied explainable AI analysis to ensure model interpretability for business stakeholders.

<\>. Python I MySQL I SHAP I PowerBI

**Research Engineering intern @ University of Brescia** Brescia, IT [Oct.2018-Mar.2019]

- Conducted research on Bluetooth Low Energy protocol.
- Implemented a BLE sniffer able to debug connection. Reduced debugging cost by 60% compared to market alternatives.

<\>. C I Bash I Linux I Computer Network

## Publication.

**Introduction to Quantum Machine Learning**

- Authored a peer-reviewed publication explaining foundational quantum ML concepts (QRAM, Grover) and advanced algorithm for applied machine learning practitioners. [Paper]

<\>. QML I Latex

## Education.

**Master of Science in Data Science** [Feb. 2022]

@ University of Milano Bicocca - [score: 110/110]

Main Courses: Machine & Deep Learning I Probability & Statistics I Statistical Modelling

**Bachelor of Science in Computer Science & Engineering** [Oct. 2019]

@ University of Brescia

Main Courses: Software Engineering I Linear Algebra I Calculus I Operating System I Physics

## Projects.

**Galgo - Genetic Algorithm**

- An open-source implementation of the genetic algorithm. Designed to provide a flexible and easily extensible interface for various applications. [Link]

<\>. Open-source I Python I Object Oriented Programming

**Path Finder**

- Implemented a simple visualisation tool for shortest path algorithms (DFS, BFS, etc.) with the aim of delving more deeply into the study of DSA & Graphs. [Link]

<\>. Python I Data Structure & Algorithms I Graph