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** enabling rapid generation of **500+ features per project** through simple configuration vs. manual coding. 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. Nearly **automates 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 | MLflow | Airflow | Optuna | AWS | Bash | CI/CD Pipelines | 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 | MySQL | SHAP | PowerBI

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

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

</>. C | Bash | Linux | 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 | Latex

Education.

Master of Science in Data Science   [Feb. 2022]
@ University of Milano-Bicocca | [score: 110/110]
Main Courses: Machine & Deep Learning | Probability & Statistics | Statistical Modelling

Bachelor of Science in Computer Science & Engineering   [Oct. 2019]
@ University of Brescia
Main Courses: Software Engineering | Linear Algebra | Calculus | Operating System | Physics

Projects.

Galgo - Genetic Algorithm

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

</>. Open-source | Python | 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 | Data Structure & Algorithms | Graph