Pietro Bonardi

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Work Experiences

Present – Nov. 2022 | **Machine Learning Engineer, ING, Milan**

- Developed an early warning signal model to predict breaches across both installment and non-installment products. Systematized the development process by designing a reusable code template for building transactional ML models enabling the team to build and deploy 50% faster.
  Currently managing the production processes, implementing automated pipelines for testing and deploying new code versions, as well as increase test coverage.
- Engineered production-ready ML workflows capable of pre-processing over 100mln transactions to identify eligible loan customers. Instantiated a scheduler to orchestrate the underlying code. Enabling the business to double loan disbursement year over year.
- Created a custom interactive dashboard using Streamlit for model monitoring, able to generate reports and slideshow. Adopted as the standard, it automates almost 100% of the tasks.

PySpark | Airflow | MLFlow | Optuna | Streamlit | AWS | Bash | CI/CD Pipelines

Nov. 2021 – Mar. 2021 | **Data Science intern, Fastweb, Milan**

- Conducted ad-hoc statistical analyses to overview compensation policies and created a PowerBI dashboard, boosting HR team efficiency in exploring salary data by 50%.
- Trained an XGBoost classifier designed to drive remuneration processes by predicting salary bands, with 75% of F1-score. Used SHAP to make the tool interpretable also by non-expert.

Python | SQL | SHAP | PowerBI

Mar. 2019 – Oct. 2018 | **Research Engineering intern, Computer Science Department, University of Brescia**

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

C | Bash | Linux | Computer Network

Education

Feb. 2022 | **Master of Science, Data Science, University Milan-Bicocca**

Main Courses: Machine & Deep Learning | Computer Vision | Data Management | Statistical Modelling | Probability & Statistics

- Organized core lectures with LaTeX. [Notes]
- Final Score: 110/110

Oct. 2019 | **Bachelor of Science, Computer Science & Engineering, University of Brescia**

Main Courses: Software Engineering | Calculus 1-2 | Physics 1-2 | Linear Algebra | Operating System

Projets

Introduction to Quantum Machine Learning (QML)

Springer Nature Technology

Investigated and redacted an introduction for non practical reader to the growing QML field. The project later became a peer-reviewed paper.

Quantum Machine Learning | Machine Learning | LaTeX | Python

GALGO Genetic Algorithm

github.com/pietrobonardi/galgo

Developed GALGO, an open-source implementation of the genetic algorithm. Designed to provide a flexible and easily integrable interface for various applications. Continuously enhancing the evolutionary algorithm steps to improve performance and efficiency.

Open-source | Python | Object Oriented Programming

How Tube Popular

github.com/pietrobonardi/How-Tube-Popular Visualization

Data analysis on YouTube most popular videos. Collected a high volume of data and implemented an architecture for distributing data across multiple machines via MongoDB.

MongoDB | Azure Platform | Tableau | Python | Git

Skills

Data Science & Machine Learning	PySpark | MLFlow | Scikit-learn | Shap | Optuna | Feature-Engine
DevOps & Cloud	GitHub | Airflow | Docker | AWS (S3) | Azure DevOps | Bash
Data Visualization & BI	Streamlit | Superset
Languages	Python | Java | C | LaTeX
Databases	SQL | NoSQL