





# Pietro BONARDI

 [linkedin.com/in/pietrobonardi](https://www.linkedin.com/in/pietrobonardi)  [github.com/pietrobonardi](https://github.com/pietrobonardi)  [pietrobonardi@icloud.com](mailto:pietrobonardi@icloud.com)  +39 333 955 2966  
<https://pietrobonardi.github.io>

## WORK EXPERIENCES

Present Nov. 2022	<b>Machine Learning Engineer, ING, Milan</b> <ul style="list-style-type: none"><li>Developed an early warning signal model able to predict breaches across all products within the bank, resulting in the bank's most wide-ranging model, capable of processing over 1 million active products. Currently managing the production transition by implementing automated pipeline for testing &amp; code deployment and creating a scheduler to automatically orchestrate the runs.</li><li>Engineered production-ready ML workflows capable of processing over 100 million transactions monthly. Established an Airflow scheduler to automate the process, enabling the business to double loan disbursement year over year.</li><li>Improved team development processes by developing a centralized library of blueprints that encompass: spark processor, feature creation, selection steps and model selection. Achieved 85% test coverage ensuring a reliable code base.</li><li>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.</li></ul> <div><div>PySpark</div><div>Airflow</div><div>MLFlow</div><div>Optuna</div><div>Streamlit</div><div>AWS</div><div>Bash</div><div>CI/CD Pipelines</div></div>
Nov. 2021 Mar. 2021	<b>Data Science intern, FASTWEB, Milan</b> <ul style="list-style-type: none"><li>Conducted ad-hoc statistical analyses to overview compensation policies and created a PowerBI dashboard, boosting HR team efficiency in exploring salary data by 50%.</li><li>Trained a ML classifier designed to drive remuneration processes by predicting salary bands. Performed explainable AI analysis to make the tool interpretable also by non-expert.</li></ul> <div><div>Python</div><div>SQL</div><div>SHAP</div><div>PowerBI</div></div>
Mar. 2019 Oct. 2018	<b>Research Engineering intern, COMPUTER SCIENCE DEPARTMENT, University of Brescia</b> <ul style="list-style-type: none"><li>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.</li></ul> <div><div>C</div><div>Bash</div><div>Linux</div><div>Computer Network</div></div>

## PUBLICATION

### INTRODUCTION TO QUANTUM MACHINE LEARNING

 [Link to Paper](#)

Investigated and redacted an introduction for non practical reader to the growing QML field. The project later became a peerreviewed paper published in late 2021.

QML

Machine Learning

## PROJECTS

### GALGO GENETIC ALGORITHM

 [github.com/pietrobonardi/galgo](https://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](https://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

## 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 relevant core lectures with LaTeX. [\[Notes\]](#)

### 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*