Pietro BONARDI

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WORK EXPERIENCES

Present Nov. 2022	**Machine Learning Engineer, ING, Milan** • Developed an "Early Warning Signal" model aimed at predicting breaches on products. Optimized development process by defining a reusable code template for building transactional ML model (and more) which includes, functionality for feature creation, feature selection, algorithm selection and model training. • Engineered production-ready ML workflows capable of pre-processing over 100mln transactions to identify eligible loan customers. Instantiated a scheduler using Airflow to orchestrate the underlying code. This resulted in a doubling of loans disbursed from year to year. • Developed a custom interactive dashboard using Streamlit for model monitoring, able to generate reports and slideshow. Now standard for the monitoring, it automatised the activities by almost 100%. PySpark · Airflow · MLFlow · Optuna · Streamlit · Feature-engine · AWS · CI/CD Pipelines
Nov. 2021 Mar. 2021	**Data Science intern, FASTWEB, Milan** • Crafted PowerBI dashboard. Reduced by 50% the exploration time for salaries database. • Trained an XGBoost classifier designed to drive remuneration processes by predicting salary bands, with 76% of F1-score. Used SHAP to make the tool interpretable also by non-expert. Python · SQL · PowerBI · XAI
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** *Courses: Machine & Deep Learning	Computer Vision	Text Mining	Data Management	Statistical Modelling	High Dimensional Data Analysis	Probability & Statistics* • Organised lectures for main courses. [Notes]
Oct. 2019	**Bachelor of Science, COMPUTER SCIENCE & ENGINEERING, University of Brescia** *Courses: Software Engineering	Calculus 1-2	Physics 1-2	Linear Algebra	Operation Research	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

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

DESIGN OF COMPUTER AIDED DETECTION

 Report
Fine tuned (CNN) VGG-16 on x-rays images of breast cancer, with 75% accuracy. Then, implemented a content-based image retrieval to aid professionals in selecting appropriate treatment options.
Tensorflow · OpenCV · Convolutional Neural Network · Content Based Image Retrival

SKILLS

Languages	Python	Java	C	LaTeX	R	(OOP paradigm)
Tools	PySpark	MLFlow	Bash	Git	AzureDevOps	Streamlit	Optuna
Database	SQL	MongoDB	NoSQL (S3)
Cloud	AWS	Microsoft Azure	Docker