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Francesco Sannicola

Machine Learning Engineer

Working experience

Machine Learning Engineer - Senior Consultant

🏢 *Links Management & Technology* 📍 Bari 📅 01/2025– current

Python	Java	Docker	Gitlab CI/CD	LangChain	AWS: EC2, S3, Lambda, SageMaker, Transcribe, Polly, SQS, SNS, RDS, EventBridge							
PyTorch	TensorFlow	Keras	Milvus	FastAPI	Spring Boot	Git	PostgreSQL	MongoDB	Redis	Snowflake	Keycloak	Mosquitto

- End-to-end IoT energy forecasting platform featuring automated ML model selection, **genetic algorithm** optimization, and interactive dashboards for predicting, monitoring and optimizing healthcare facility power consumption and CO₂ emissions.

Machine Learning Engineer - Consultant

🏢 *Links Management & Technology* 📍 Bari 📅 03/2023–12/2024

- Enhanced Data Extraction with Web Crawling and GraphRAG: **ReAct Agent** with browsing and crawling capabilities for web data extraction. Integration with GraphRAG to seamlessly combine on-premise and online data, allowing users to ask questions via the chatbot and receive answers sourced from both local and internet data.
- Extracting ESG Insights from investment fund reports: system based on RAG and GPT-4o, designed to extract KPIs from unstructured ESG standards documents and retrieve ESG content from active fund reports using **In-context Learning**.
- NLP-based content proposition during web browsing: **RAG web application** designed to enhance user experience by providing supplementary content such as up-to-date news, encyclopedic information, and FAQs relevant to the page content. The application implements asynchronous **speech-to-text** and **text-to-speech** capabilities using Amazon Transcribe and Amazon Polly, respectively, allowing users to interact with the application through voice or text commands.
- Predictive maintenance and remaining useful life estimation for Electric Vehicle (EV) charging stations: from an initial anomaly detection model to the development of a comprehensive **degradation model** to facilitate the identification of crucial variables that significantly influence wear and tear on EV charging stations.
- Loan Default Prediction: implementation of a classification model for **past due identification** in order to proactively alert the bank several months in advance about the likelihood of a particular loan experiencing payment delays.
- **Lecturer** in software development, databases, and Python at *Associazione Formazione*; and in anomaly detection and time series analysis at *Links Academy – AI & ML*, with practical lab materials available on *GitHub*.

Artificial Intelligence and Data - Analyst

🏢 *Deloitte* 📍 Bari 📅 10/2022–02/2023

Qlik Sense	SQL	Pandas	MS Excel	Qlik NPrinting
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- Developed an ETL workflow with automated **data visualization** of employees' KPIs derived from survey data, aimed at enhancing their engagement, retention, and satisfaction.

AI engineer and System Administrator - Intern

🏢 *Intesa Sanpaolo* 📍 Torino 📅 12/2021–05/2022

Python	TensorFlow	Google Cloud Platform	Flask	Bokeh	Bash
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- Developed a real-time **time series forecasting** and anomaly detection solution, evolving from a statistical baseline to recurrent networks and autoencoders, to enable system engineers to promptly address potential infrastructure failures.

Education

Master's degree in Computer Science - AI

🏛 *University of Turin* ✓ GPA: 3.71/4 📅 01/2020–04/2022

- Major: Neural networks and Deep Learning, Machine Learning, Natural Language Technologies, Advanced Techniques and Architectures for Software Development, Conceptual Modeling for Semantic Web.
- 200h collabs: web pages development for freshman orientation, notes making and study support for student with disability.
- Thesis: development and dashboarding of real-time time series **anomaly detection** systems on univariate time series using statistics, machine learning and deep learning ([link](#) to thesis).

Bachelor's degree in Computer Science

🏛 *University of Bari* ✓ GPA: 4/4 📅 10/2016–12/2019

- Major: Computer Architecture, Operating Systems, Algorithms and Data structures, Databases, Software Engineering.
- Thesis: full-stack development of an indoor positioning system and integration with a content-based **recommender system**.

Certifications

04/2024 **AWS Certified Machine Learning** [↗](#)
05/2022 GCP Big Data and ML Fundamentals [↗](#)

03/2024 AWS Machine Learning Cert Preparation [↗](#)
04/2022 GCP Fundamentals: Core Infrastructure [↗](#)

Languages

Italian: Native

English: Professional Working Proficiency