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# Francesco Sannicola

Machine Learning Engineer | Data Scientist

## Working experience

### Data Scientist II

🏢 Agile Lab 📍 Milano - Full Remote 📅 09/2025– current

### Machine Learning Engineer - Senior Consultant

🏢 Links M&T 📍 Bari - Hybrid 📅 01/2025– 08/2025

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

- Built a multi-tenant IoT energy forecasting platform for 3 enterprise clients with genetic algorithm-optimized models, real-time dashboards, and **MLOps** from scratch (experiment tracking, model registry, versioned datasets, CI/CD, rollback), enabling per-tenant customization and reducing peak energy costs, overall power consumption, and CO<sub>2</sub> emissions via demand forecasting.

### Machine Learning Engineer - Consultant

🏢 Links M&T 📍 Bari - Hybrid 📅 03/2023–12/2024

- Integrated browsing, crawling, and GraphRAG into a **ReAct Agent**-powered **chatbot** to unify on-premise and online sources, accelerating reporting and reducing prep time by 15–30 minutes per session.
- Designed an ESG reporting solution underpinned by **RAG** and GPT-4o, enabling automated KPI extraction and contextual retrieval from fund reports, significantly reducing compliance costs and enhancing decision-making efficiency.
- Developed an NLP web application powered by **encoder-only transformer models** to deliver contextual content recommendations with sub-5s latency, enhancing user engagement through integrated speech-to-text and text-to-speech interaction.
- Engineered **predictive maintenance** and remaining useful life estimation for Electric Vehicle (EV) charging stations, reducing maintenance costs by 30% and preventing unexpected failures through degradation models that identify critical wear variables.
- Built a loan **default prediction** model that achieved 80% accuracy with <2% false positives, empowering banks to proactively flag high-risk accounts 3–6 months before potential 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*, resulting in 7+ student job placements; practical lab materials available on *GitHub*.

### Artificial Intelligence and Data - Analyst

🏢 Deloitte 📍 Bari - Full Remote 📅 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 employee KPIs from survey data, transforming static reports into real-time dashboards that enhanced engagement, retention, and satisfaction monitoring for leadership decisions.

### AI engineer and System Administrator - Intern

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

Python	TensorFlow	Google Cloud Platform	Flask	Bokeh	Bash
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- Implemented a real-time **time series forecasting** and anomaly detection solution, evolving from a statistical baseline to recurrent networks and autoencoders, dramatically reducing infrastructure failure response time from minutes to seconds.

## Education

### Master's degree in Computer Science - AI

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

- Coursework: Neural Networks; Machine Learning; Natural Language Technologies; Advanced Software Architectures.
- 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

- Coursework: Computer Architecture; Operating Systems; Algorithms; 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