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Francesco Sannicola

Machine Learning | Software Engineering

Working experience

Machine Learning Engineer - Senior Consultant

☐ Links Management & Technology ■ Bari ■ 01/2025- current

Machine Learning Engineer - Consultant

☐ Links Management & Technology ■ Bari
☐ 03/2023–12/2024

Gitlab CI/CD Amazon Web Services: EC2, S3, Lambda, Transcribe, Polly, SNS, EventBridge Python Docker LangChain Milvus **Pandas FastAPI** Keras Redis **PostgreSQL** Keycloak Mosquitto **KNIME**

- 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.
- **Lecturer** in anomaly detection and time series analysis at *Links Academy AI & ML* (labs available on *Github*).
- Contribution to **AI technical interviews** (review on *Glassdoor*).

Artificial Intelligence and Data - Analyst

I Deloitte **P** Bari **=** 10/2022–02/2023

Qlik Sense SQL MS Excel **Qlik NPrinting**

• Developed an ETL workflow with automated data visualization of employees' KPIs derived from survey data, aimed at enhancing their engagement, retention, and satisfaction.

Al engineer and System Administrator - Intern

III *Intesa Sanpaolo* **▼** Torino **III** 12/2021–05/2022

Python Tensorflow Google Cloud Platform

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 - Al

1 University of Turin **✓ GPA**: 3.71/4 **1** 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

1 University of Bari **✓ GPA**: 4/4 **1** 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 [2] 03/2024 AWS Machine Learning Cert Preparation [2] 05/2022 GCP Big Data and ML Fundamentals 2 04/2022 GCP Fundamentals: Core Infrastructure

Languages

Italian: Native English: Professional Working Proficiency