

RAMBOD RAHMANI

Artificial Intelligence and Data Engineer

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Pisa, Tuscany - Italy

WORKING EXPERIENCE

Financial Services IT Consultant

Blue Reply S.r.l.

Nov 2022 - Currently

Florence, Italy

- As a full-stack engineer, I develop financial sector applications for consumer credit, working with Java Spring Boot and Camel orchestrations for the back-end, and Angular for the frontend. I ensure seamless integration using Axway API Gateway and incorporate IBM MQ for financial data workflows.
- For the innovation lab, my focus revolves around fine-tuning transformer models for default prediction using Italian companies' 10-k reports. Data is extracted from the AIDA portal, provided by Bureau van Dijk. Model explainability is achieved by employing Shapley Value. This approach helps us identify which sentences within the 10-k reports have the most significant impact on classifying a business as default or non-default.

Software Engineer

ClassX S.r.l.s

Feb 2018 - Aug 2018

Pisa, Italy

- As a Java Software Engineer, I worked on developing an in-house real-time computer graphics engine and broadcast graphics solutions capable of rendering and manipulating graphics elements. This involved Java Virtual Machine performance tuning and creating virtual sets, enabling anchors to appear using green screen technology and extensions.

Software Engineer

R.H. Impianti di Rahmani Hamidreza

Dec 2017 - Mar 2023

Sassari, Italy

- Using the Siemens TIA Portal V16, I designed and implemented a remote monitoring system for pumping stations utilizing Siemens PLC S7-1200, Simatic HMI TP1200, SINAMICS G120X converter, Sentron PAC3220 energy meter, SENTRON 3VA2 circuit breakers, SITOP DC UPS modules, and Siemens SCALANCE X208.
- I engineered and executed the end-to-end setup of a video surveillance ecosystem, featuring a tailored configuration of Hikvision cameras, Artec server, and NEXT Suite v.11. This encompassed the installation and optimization of network switches, along with the implementation of PoE for efficient camera power supply and data transmission.

PAPERS

- KerubLess - Design of a Driverless Formula SAE Vehicle
5th IEEE International Conference on Industrial Cyber-Physical Systems
- Enhancing Credit Default Prediction through an Ensemble of Focal Loss-Based Neural Networks
Credit Scoring and Credit Control XVIII
- Enhancing finance through machine learning workflow to address credit default prediction
2023 IEEE Symposium Series on Computational Intelligence

TECHNICAL SKILLS

- Deep learning, Machine learning, Genetic algorithms for optimization.
- Linux, ROS, C++, Python, Java, PyTorch, Tensorflow, NVIDIA CUDA.
- Siemens TIA Portal, MySQL, Java, Spring Boot, Angular, Git.
- Apache spark, Apache Cassandra, Apache Hadoop.

EDUCATION

M.Eng in Artificial Intelligence

110/100L

Sep 2020 - Apr 2023

University of Pisa

B.Eng in Computer Engineering

99/100L

Sep 2013 - Jul 2020

University of Pisa

PROJECTS

E-Team Squadra Corse

Sep 2020 - Apr 2023

University of Pisa

As the manager of the driverless division, I directed the comprehensive transformation of our combustion vehicle into an autonomous racing platform, culminating in victory at the Formula SAE Italy 2021 Engineering Design Event. I oversaw the intricate integration of hardware components, such as NVIDIA Jetson AGX Xavier, Hesai Pandar 40P Lidar and Stereolabs ZED 2 Stereo camera. I Spearheaded the development of a robust software stack grounded in ROS, C++, Python, PyTorch, NVIDIA TensorRT, NVIDIA CUDA, PointCloud Library, OpenCV and CasADi, incorporating deep learning-driven perception, Model Predictive Control for trajectory planning, and precision low-level control based on FAULHABER drive systems. The project also involved the development and utilization of a simulator based on Unreal Engine with the AirSim plugin which served as a pivotal tool for validating the autonomous vehicle's software and control systems in a photorealistic 3D environment.

CERTIFICATES & AWARDS

Siemens SIMATIC S7-1200 MICRO1 & MICRO2

Siemens SITRAIN

Intel Excellence in Computer Science

Intel Corporation

National Excellence Honours Roll

Italian Ministry of Education, University and Research

9th Expo-Sciences Europe 2012

MILSET Expo-Sciences Europe

LANGUAGES

- Italian (Mother tongue)
- Persian (Mother tongue)
- English (C1)
- French (A2)