

# 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 driverless division manager, I led the transformation of our vehicle into an autonomous racer, winning Formula SAE Italy 2021's Engineering Design Event. I managed complex hardware integration, including NVIDIA Jetson AGX Xavier, Hesai Pandar 40P Lidar, and Stereolabs ZED 2 Stereo Camera. Our software stack, grounded in ROS, C++, Python, PyTorch, NVIDIA TensorRT, CUDA, PointCloud Library, OpenCV, and CasADi, featured deep learning perception and Model Predictive Control. We also leveraged a simulator, using Unreal Engine with AirSim, for rigorous testing in a lifelike 3D environment. This comprehensive effort showcased our prowess in autonomous racing technology.

## 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)