Romina Saljooghian

Robotics AI & Machine Learning Specialist

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Education

Master of Science | ***Automation and Control Engineering*** Sep. 2022 – Mar. 2026
Politecnico di Milano Milan, Italy

- **GPA** | 27.2/30
- **Thesis (In Progress)** | Semantic characterization of robotic environments
- Relevant Coursework | Data-Driven Control Systems Design, Artificial Neural Network & Deep Learning, Automation and Control in Vehicles, Control of Industrial Robots, Software Engineering

Bachelor of Science | ***Electrical Engineering, Minor: Control*** Sep. 2016 – Aug. 2020
K. N. Toosi University of Technology Tehran, Iran

Work Experience

Delphi Software Developer Jan. 2020 – Sep. 2021
Torfeh Negar Holding Tehran, Iran

- Developed Delphi UI and backend modules, enhancing Holoo accounting's user efficiency.
- Optimized SQL Server performance, resolving bottlenecks and stabilizing nightly processes.
- Improved report latency through effective troubleshooting of runtime errors.

Instrumentation & Control Intern Jun. 2019 – Sep. 2019
Tavan Gostare Zino Tehran, Iran

- Collaborated on designing and testing grounding systems, enhancing safety and efficiency.
- Assisted in the implementation of earthing systems, ensuring compliance with industry standards.

Projects and Research

Scene Graph Generation for Robotic Vision | ***Python, PyTorch, CLIP/OWL-ViT*** Spring 2025

- Open-vocabulary object–relation detection (OWL-ViT + CLIP) for robust scene understanding
- Enables downstream planning via generalizable text prompts/embeddings

Time-Series Forecasting for Control Applications | ***Python, LSTM, NumPy, scikit-learn*** Winter 2024

- Built and tuned an LSTM pipeline (windowing, scaling, walk-forward validation) for real-time control signals
- Reduced prediction error by **15%** vs. baseline; supported scheduler decisions

Plant Leaf Health Classification | ***Python, TensorFlow/Keras*** Fall 2024

- Built CNN with standardized preprocessing and augmentation for disease detection in leaf imagery
- Reached **90%** accuracy; production-style evaluation (TTA/ensembling ready)

CNC Machine Automation & Closed-Loop Control | ***MATLAB, Simulink*** Spring 2024

- Designed cascaded **PID/state-feedback** for 2-DOF CNC axes with feed-forward
- Validated precise trajectory tracking with reusable Simulink benches

Neural Signal Modeling & Drug-State Classification (LFP, Mice) | ***MATLAB, Neural Networks*** 2020

- Computed band-power/coherence features across control vs. drug states from LFP recordings
- Trained calibrated classifier; interpreted coherence features.

Skills

Languages: English (Fluent), Italian (A2), Persian (Native)

Programming: Python (NumPy, SciPy, pandas, scikit-learn, Matplotlib), MATLAB, SQL

ML Frameworks: PyTorch, TensorFlow, Keras

Software & Tools: Git, Linux, FastAPI, Simulink, LaTeX