Nicola Saltarelli, Automation Engineer

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🌐 https://sltncl.github.io

Education

2023 – 2025 🔖 **Master degree** in Automation Engineering at Politecnico di Bari.
Final grade: 110/110 with honors.

2020 – 2023 🔖 **Bachelor degree** in Computer and Automation Engineering at Politecnico di Bari.
Final grade: 110/110 with honors.

Experience

11/2025 – Current 🔖 **Graduate Researcher | Politecnico di Bari**
Conducting R&D activities focused on producing scientific papers in the fields of Robotics, Artificial Intelligence and Computer Vision.

06/2025 – 10/2025 🔖 **MSc Research Intern (Master Thesis) | Politecnico di Bari**
Experimental Master Thesis in Robotics: "Online Reinforcement Learning for Adaptive Gain Tuning in Image-Based Visual Servoing".

- Sim & Control: Designed a high-fidelity ROS 2 (Jazzy) / Gazebo environment for a UR5e manipulator. Implemented real-time Cartesian velocity control using MoveIt Servo.

- AI & Vision: Developed a Continuous Action Q-Learning (CAQL) algorithm for adaptive IBVS, integrated YOLO and AprilTag (OpenCV) for robust tracking in dynamic environments.

Projects

Turtlebot3 autonomous exploration 🔖 Autonomous navigation stack using ROS2 and SLAM in Gazebo.

Motion control with Neural Network 🔖 Motion control of a 6 degree of freedom (DOF) robotic manipulator with neural network.

Snake on FPGA DE10-Lite 🔖 Implementation of the Snake game on the FPGA DE10-Lite platform using the VHDL.

Position control of linear actuator 🔖 PID-based position control system for a linear actuator.

JustChat 🔖 Developed a real-time messaging application (WhatsApp clone) using ReactJS and NodeJS.

Skills

Coding 🔖 Java, Python, R, SQL, JavaScript, C++, HTML, CSS, NodeJS, ReactJS, VHDL, LaTeX

Automation 🔖 Matlab, Simulink, Solidworks, LabView, Fritzing, NI Multisim, ROS, Docker.

Languages 🔖 Italian: native speaker. English: level B2.