Gennaro Scarati

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EXPERIENCE

Robotics & AI Engineer, Eurecat   *Barcelona, Spain*
July 2023 – Present

- **Research and implement state-of-the-art robotics** (path planning, localization, controls), **AI and computer vision features** (detection, segmentation, tracking). Gained extensive experience with collaborative robots (KUKA, Universal Robots), RGB-D and thermal cameras, NVIDIA Jetson and CUDA devices, diverse end-effectors (vacuum, magnetic, finger grippers), and various mechatronic systems.
- **Define robotic systems requirements and manage technical interactions with customers and suppliers** to ensure alignment with projects specifications and technical objectives, while leading project-specific robotics teams (3–5 members) to meet deadlines and performance targets.
- **Design and develop robotics and autonomous systems for both private and publicly funded projects** (national and European). Coordinate project proposal preparation, focusing on technical documentation, budget planning, resource allocation, and milestone definition.

Key Technologies: C++, Python, Jira, ROS, ROS2, Git, OpenCV, Docker, Linux

Control Systems Engineer, *Dumarey Softronix*   *Turin, Italy*
March 2022 – July 2023

- **Defined specifications and developed engine control and diagnostic systems** for **General Motors** vehicles (GMC Sierra and Chevrolet Silverado, 2024–2027 models), with projected deployment on nearly **100,000** vehicles in 2024 alone.
- **Improved engine diagnostic systems** using Six Sigma analysis, machine learning estimation techniques, and genetic programming for calibration optimization, resulting in projected cost savings of over **€8 million**.
- **Defined control systems and testing requirements** in an Agile (Scrum) environment, leveraging the V-Model lifecycle and Model-Based Systems Engineering (MBSE) methodologies. Collaborated with cross-functional teams in Italy, the US, and India to meet development, calibration, and production milestones.
- **Developed automated testing methods for control algorithms and calibrations in simulation environments**, complemented by test bench validation and both Software-in-the-Loop (SIL) and Hardware-in-the-Loop (HIL) testing to ensure robust system performance and reliability.

Key Technologies: DOORS, Jira, MATLAB, Simulink, C, Python, Git, ETAS INCA, MDA

EDUCATION

Master's Thesis Researcher, *PIC4SeR – Politecnico di Torino Centre for Service Robotics*   *Turin, Italy*
March 2021 – December 2021

- **Developed and validated an Autonomous UAV Landing Technology for precise landings on moving platforms**, including the full design, simulation, implementation, and experimental testing of localization techniques (UWB and custom Kalman Filters), control algorithms, and state machines to manage all chase and landing phases.
- **Achieved centimeter-level landing precision in real-world field tests** with a custom UAV and rover, following extensive simulations using real sensor noise data and subsequent implementation and validation of the developed systems in real scenarios ([link to simulation](#), [link to field tests](#)).

Master's Degree in Mechatronic Engineering, *Politecnico di Torino*   *Turin, Italy*
September 2019 – December 2021

- Final grade: **110 with honours/110** (GPA: 29.9/30)
- Won first place at "Challenge@Polito: Artificial Intelligence" with an **NLP software application** that automatically generates concept maps from texts, which contributed to the **creation of an AI startup** that raised over **€1.5 million** in investments.

Bachelor's Degree in Mechanical Engineering, *Politecnico di Torino*   *Turin, Italy*
September 2016 – September 2019

- Final grade: **110/110**

TECHNICAL CERTIFICATIONS

- **Machine Learning**   Stanford University Online

LANGUAGES

- **Italian**   Native
- **English**   Advanced (C1 IELTS Certificate – Professional working proficiency)
- **Spanish**   Advanced (C1, Professional working proficiency)
- **German**   Elementary Proficiency (A2)

PUBLICATIONS

- **European Robotics Forum 2025** – *Advances on Affordable Hardware Platforms for Human Demonstration Acquisition in Agricultural Applications* (Accepted for presentation at the ERF in Stuttgart, March 2025).