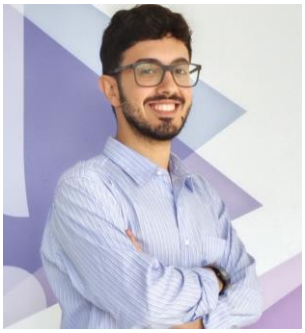
Gennaro Scarati



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Portfolio: gennaroscarati.com

EXPERIENCE

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

- Develop and deploy robotics and AI software modules for industrial and agricultural robots using C++, Python and ROS2.
- Train and implement learning-from-demonstration pipelines (VLAs, Diffusion Policies) to solve dexterous manipulation tasks, such as fruit harvesting and industrial assembly.
- Achieved a **50%** reduction in development time for perception-based dexterous manipulation pipelines by developing and integrating custom task planning modules within behavior trees.
- Gained extensive hands-on expertise with collaborative robots, drones, cameras and various mechatronic systems.

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

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

- Developed and maintained control systems for **General Motors** vehicles, deployed on around **100,000 units** in 2024 alone.
- Enhanced fault diagnostic performance by **~50%** by combining RNN-based system prediction with classical model-based methods, while reducing calibration effort by **~30%**.
- Collaborated with cross-functional teams in Italy and the U.S. to meet development, calibration, and testing milestones.

Key Technologies: C, Python, Git, MATLAB, Simulink, DOORS

PROJECTS

Master Thesis - Autonomous UAV Landing System, *PIC4SeR – Turin, Italy* *Mar 2021 – Dec 2021*

- Developed an Autonomous UAV Landing System (Link Thesis) achieving centimeter-level precision on moving UGVs.
- Designed the complete landing pipeline, including UWB localization, perception modules, and control systems.
- Validated the system through Gazebo simulations and real-world field tests (Link Video).

Key Technologies: Python, C++, ROS2, Gazebo, MATLAB, Simulink, Git

AI-based NLP application for education, *Politecnico di Torino – Turin, Italy* *Sep 2020 – Mar 2021*

- Co-ideated and developed an AI NLP app for education, which evolved into a startup raising over **€1.5 million.**

Key Technologies: Python, Flask, AWS, HTML, CSS

EDUCATION

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

- Final grade: **110 with honours/110** (GPA: 4.0/4.0)

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

- Final grade: **110/110**

LANGUAGES

- **Italian** Native
- **English** Fluent (C1)
- **Spanish** Fluent (C1)
- **German** Intermediate (A2/B1)

TECHNICAL SKILLS

C++, Python, ROS2, PyTorch, Docker, OpenCV, Linux, Git, MATLAB, Simulink, Functional Requirements, Behavior Trees

CERTIFICATIONS

- **Machine Learning** Stanford University Online

PUBLICATIONS

- ***Advances on Affordable Hardware Platforms for Human Demonstration Acquisition in Agricultural Applications*** – ERF, Springer Proceedings in Advanced Robotics