Edoardo Scarpel

M.Sc. graduate in **Control Systems Engineering**, with primary interests in **Reinforcement Learning** and **Deep Learning**, particularly for control problems in industrial applications. Passionate about **code development**, **embedded systems**, and **3D printing**, merging intelligent algorithms with hands-on engineering.

Contact

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- linkedin.com/in/edoardo-scarpel/

Skills

Programming: Python

My main programming language. Experienced with PyTorch, Pandas, Gymnasium, Matplotlib, NetworkX.

Programming: Java

My first programming language. Developed a Web Application using Maven and Apache TomCat.

Programming: C++

Used in a computer vision project with OpenCV, and in embedded systems development for a robotic application based on an STM32 microcontroller.

Programming: Others

Objective-C, MATLAB, Simulink, HTML, CSS, JavaScript.

Database: SQL

Discrete experience.

3D Printing

Self-taught in 3D modeling and printing over recent years. Experienced with Autodesk Fusion 360 for design, OrcaSlicer for slicing, and hands-on work with BambuLab and Anycubic printers.

Languages

Italian
Native speaker

English
B2 level

Spanish
B1 level - Diploma DELE

Education

2022 - 2025
University of Padua | Padua, IT
M.Sc. in Control Systems Engineering

- Thesis: Fully Dynamic Rebalancing of Dockless Bike Sharing Systems using Deep Reinforcement Learning
- Final grade: 109

2019 - 2022
University of Padua | Padua, IT
B.Sc. in Information Engineering

- Thesis: Analisi delle prestazioni della tecnologia LoRaWAN all'interno di aree boschive

Experience

2022 - present
University college of merit Don Nicola Mazza | Padua, IT
College Student

- President of the student council for JobCampus during the a.y. 2023–2024, and member of the council for a.y. 2024–2025. As president, I led a council responsible for managing the community life of over 60 residents, serving as a bridge between the student community, the direction of Collegio Mazza, and the other residences within the Collegio network.
- Participated in Innovation Experience during the a.y. 2022–2023, an initiative where businesses collaborate with multidisciplinary student teams to bring innovation into their projects. The project was developed in collaboration with UNOX S.p.A.
- Improved the IT infrastructure, managing a NAS and the printing service.

2018-present
GEISOFT S.r.l. | Conegliano, TV
IT Consultant

- Designed and developed the official website for GEISOFT S.r.l. (2018)
- Created websites for external clients, including:
  - Artist Anna Maria Li Gotti (2021)
  - Lions Club Treviso Host (2022)
- Ongoing management, updates, and maintenance of all delivered web systems
- Collaborate on IoT projects related to smart home device integration and automation

Portfolio

Some of the projects I worked on during my Master's degree:

- **Robust Car Classification with Contrastive Learning (2023)**
  - Developed a deep learning pipeline for car make/model classification using CNNs and MoCo v2 with Supervised Contrastive Learning, achieving robust performance under data mismatch on the CompCars dataset.
- **Fully Dynamic Rebalancing of Dockless Bike Sharing Systems using Deep Reinforcement Learning (2024-2025)**
  - Developed a Double Deep Q-Network (DDQN) to optimize real-time bike rebalancing in dockless systems. Built an event-driven simulation based on real-world mobility and traffic data from Cambridge, MA, achieving adaptive policies under dynamic, city-scale conditions.

Pubblications

- **Wireless Sensing in the Woodlands: Preliminary Tests for LoRaWAN Transmission in Vegetated Areas**
  - 2023 IEEE Sensors Applications Symposium (SAS), Ottawa, ON, Canada, 2023
  - Article based on my bachelor thesis work
  - Conducted field experiments to evaluate LoRaWAN transmission performance in vegetated environments for potential use in forest monitoring systems. Analyzed signal strength, noise, and packet loss across varying distances, comparing results with empirical path loss models.