

# Tommaso Canova

Padua, Italy, IT

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## Education

### Aalto University

Exchange student (Erasmus+)

Espoo, Finland

Sept 2023 - Present

- **Relevant coursework:** Complex networks, Quantum Machine Learning, Reinforcement Learning, Special Assignment in Speech and Language Processing

### University of Trento

MSc in Artificial Intelligence Systems

Trento, Italy

Sept 2022 - Present

- **Average grade:** 28.75/30, GPA: 3.9/4.0
- **Relevant coursework:** Machine Learning, Deep Learning, Computer Vision, Digital Image and Video Processing, Natural Language Understanding

### University of Trento

BSc in Computer, Communication and Electronic Engineering

Trento, Italy

Sept 2019 - Sept 2022

- **Grade:** 110/110 (with honours), Average Grade: 28.48/30, GPA: 3.9 / 4.0
- **Thesis:** Firmware development and Graphical User Interface design for a Stepper Motor test bench prototype (**thesis**)
- **Relevant coursework:** Embedded Systems, Formula SAE laboratory, Advanced programming, PCB design and prototyping

## Work Experience

### E-Agle Trento Racing Team (Formula Student)

Trento, Italy

Team Leader and Embedded Software Engineer

Oct 2021 - Sept 2023

- **Lead** and organized a group of 80 students among engineers and economists towards the building of a new electric car, in order to take part in the **Formula Student European** competitions. (**Website**)
- Developed the **BMS** (Battery Management System) **firmware** of the custom board connected to the low voltage battery of **Fenice** and **Fenice-EVO**, the two latest electric vehicles of the team. The system supplies all the other **low voltage** boards, controls the car's cooling system and manages all the safety controls required. (**Repository**)
- **Skills:** Low level programming with C, CAN bus protocol, STM32 MCUs, Hardware debugging, Soldering, KiCAD, Teamwork, Leadership, People management, Relationship management with partner companies

### ProM Facility (Trentino Sviluppo)

Rovereto (TN), Italy

Intern

Sept 2021 - June 2022

- Developed the firmware and the Graphical User Interface (**GUI**) for an innovative stepper motor test bench prototype, running on **ARM** (STM32) architecture
- Built a part of the firmware for a calibration system of a medical machine used by a proton therapy company
- **Skills:** C, STM32 MCUs, Python, Multi-threading, Data manipulation, Data Visualization

### App Informatica

Valencia, Spain

Computer Technician Specialist

Sept 2019 - Oct 2019

- The internship was offered by a European work program which I have been selected for. My main task was assembling from scratch or update clients computer, as well as fixing hardware problems

## Projects

### Stepper motor test bench

Rovereto (TN), Italy

ProM Facility

March 2022 - July 2022

- An innovative Step Motor testbench prototype with two STM32 based units and a fully custom Python GUI. **Repository**.

### Low Voltage Battery Management System firmware (BMS LV)

Trento, Italy

E-Agle TRT

Oct 2021 - Present

- The LV-BMS is a custom PCB in charge of handling the power supply of all low voltages component of the Formula Student car: Fenice EVO. The firmware is safety compliant with respect to the *Formula Student Germany competition rules*. **Repository**

### Solar Azimuth and eLevation Motorized lOcator (SALMO)

Trento, Italy

University of Trento

March 2022 - July 2022

- A custom PCB used for driving a tracking solar panel system, using GPS location and a MPPT (Maximum Power Point Tracking) algorithm to maximise the incident power. **Repository**

- Engaged in one of Europe’s premier 72-hour hackathons, collaborating within a dynamic team of 4 people.
- Achieved **4th place** in the Huawei Challenge among 100 participating team. Secured a position among the **top 5 pitching finalists** out of 300 teams in the entire Hackathon.
- Developed a mobile app combating sedentary lifestyles in children. Integrated gamification to promote and guide healthier habits through daily challenges. **Trailer**

Skills

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Programming	Python (DearPyGui, Pandas, Matplotlib, PyTorch, NLTK, Spacy, OpenCV), C, C++, Java
OS and tools	Linux, MacOS, Windows, Git, Latex, Markdown
Miscellaneous	Final Cut Pro X, Image/Video editing, Canva, Wordpress
Soft Skills	Leadership, Time Management, Teamwork, Problem-solving

Achievements

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Nov 2023	<b>4th place over 100 participating teams - Huawei Challenge</b> , Junction Hackathon 2023	Helsinki, Finland
Nov 2023	<b>Top 5 pitching finalist over 300 teams in attendance</b> , Junction Hackathon 2023	Helsinki, Finland
Sept 2019	<b>Excellent student award ("Studente Eccellente nella Città di Este")</b> , Municipality of Este	Este (PD), Italy
2018/2019	<b>Winner of the Italian rugby U18 championship</b> , Petrarca Rugby team	Italy
2016/2017	<b>Winner of the Italian rugby U18 championship</b> , Petrarca Rugby team	Italy

Languages

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English	Professional proficiency (IELTS Academic certification)
Italian	Native proficiency