

Tommaso Canova

Helsinki, Finland

✉ tommaso.canova.lavori@gmail.com | 📄 github.com/cannox227 | 🔗 linkedin.com/in/tommaso-canova

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)

Team Leader and Embedded Software Engineer

Trento, Italy

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. ([Team 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)

Intern

Rovereto (TN), Italy

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. **Reduced testing setup time by 94%**
- 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

Computer Technician Specialist

Valencia, Spain

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

HiFi Watermark for audio

Aalto university

Espoo, Finland

September 2023 - Present

- U-Net based **deep learning** architecture for Watermark embedding and retrieval on HiFi-GAN generated audio. **Repo**
- Pytorch model trained using **LJSpeech** dataset. Achieved Perceptual Evaluation of Speech Quality (**PESQ**) score of **4.4/5**

Huawei MeMo

Junction Hackathon 2023

Helsinki, Finland

November 2023

- 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**

Stepper motor test bench

ProM Facility

Rovereto (TN), Italy

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**

Skills

Programming Python, C, C++, SQL, Java

Libraries Numpy, Pandas, Matplotlib, Seaborn, PyTorch, Scikit-learn, DearPyGui, NLTK, Spacy, OpenCV

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, Critical thinking, Decision-making

Achievements

Nov 2023 **4th place over 100 participating teams - Huawei Challenge**, Junction Hackathon 2023

Helsinki, Finland

Nov 2023 **Top 5 pitching finalist over 300 teams in attendance**, Junction Hackathon 2023

Helsinki, Finland

Sept 2019 **Excellent student award ("Studente Eccellente nella Città di Este")**, Municipality of Este

Este (PD), Italy

2018/2019 **Winner of the Italian rugby U18 championship**, Petrarca Rugby team

Italy

2016/2017 **Winner of the Italian rugby U18 championship**, Petrarca Rugby team

Italy

Languages

English Professional proficiency (IELTS Academic certification)

Italian Native proficiency

Spanish Elementary proficiency

Finnish Elementary proficiency