

TOMMASO CANOVA

Master student in Artificial Intelligence

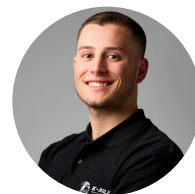
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EXPERIENCE

Team Leader and Embedded Software Engineer

E-Agle Trento Racing Team (Formula Student)

📅 Oct 2021 – Sept 2023

📍 Trento, Italy

- **Lead** and organized a group of 80 students among engineers and economists towards the building of a fully 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](#)).
- Participated to Formula Student Germany and Formula Student Italy competitions.
- **Skills:** Low level programming with C, CAN bus protocol, STM32 MCUs, Hardware debugging, Soldering, KiCAD, Teamwork, Leadership, People management, Relationship management with partner companies

R&D Intern

ProM Facility (Trentino Sviluppo)

📅 Sept 2021 – June 2022

📍 Rovereto (TN), Italy

- 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%** ([Repository](#))
- 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

PROJECTS

HiFi Watermark Audio

[Deep Learning] - Aalto University

📅 September 2023 – December 2023

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

Fibit Fitness Tracker data analysis

[Data Science] - Aalto University

📅 December 2023

- Performed Data Cleaning, **Feature Engineering** and Exploratory Data Analysis. [Repository](#)
- Extracted **insights** and **trends**. Validated users compliance with WHO guidelines on physical activity and sedentary behaviour.

EDUCATION

M.Sc. in Artificial Intelligence

Second year: Aalto University, Finland

📅 2023 – Ongoing

- **Average grade:** 5.0/5.0
- **Relevant coursework:** *Complex networks, Quantum Machine Learning, Reinforcement Learning, Special Assignment in Speech and Language Processing*

First year: University of Trento, Italy

📅 2022 – 2023

- **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*

B.Sc. in Computer, Communication and Electronic Engineering

University of Trento, Italy

📅 2019 – 2022

- **Grade:** 110/110 (with honours), Average Grade: 28.48/30, GPA: 3.9 / 4.0
- **Relevant coursework:** *Embedded Systems, Formula SAE laboratory, Advanced programming, PCB design and prototyping*

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
Bash Docker Latex Markdown

Soft skills

Leadership Time Management
Problem solving Critical thinking
Decision making

PROJECTS (CONTINUED)

Disease spreading network analysis

[\[Network analysis\]](#) - [Aalto University](#)

📅 December 2023

Built a **Susceptible-Infected** (SI) disease spreading model using a **temporal network** from air transport data. [Repository](#)

Stepper motor test bench

[\[Bachelor's Thesis\]](#) - [ProM Facility](#)

📅 March 2022 - July 2022

Created an innovative Step Motor testbench prototype with two **STM32** based units and a fully custom **Python GUI**. [Repository](#)

Low Voltage Battery Management System firmware

[\[Embedded Systems\]](#) - [E-Agle Trento Racing Team](#)

📅 Oct 2021 - July 2023

- Developed the firmware of a custom PCB (BMS LV) in charge of managing the power supply of all low voltage components of the Formula Student car "Fenice EVO".
 - Guaranteed safety compliance with respect to the *Formula Student Germany rules*
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Solar Azimuth and elevation Motorized IOcator (SALMO)

[\[Embedded Systems\]](#) - [University of Trento](#)

📅 March 2022 - July 2022

Designed, produced and programmed 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](#)

LANGUAGES

English: Professional proficiency

Italian: Native proficiency

Spanish: Elementary proficiency

Finnish: Elementary proficiency

ACHIEVEMENTS

4th Place Winner (out of 100+ teams) at Huawei Challenge

[Junction 2023 Hackathon](#)

📅 Nov 2023

App presentation ([Video](#))

Winner of the Italian rugby U18 championship

[Italy](#)

📅 Season 2018/2019

Winner of the Italian rugby U18 championship

[Italy](#)

📅 Season 2016/2017