

# MATTEO CIRILLO

Master of Science Student in Microengineering

09.10.2000  
Swiss



## SUMMARY

EPFL 2022 microengineering BSc with exchange at the Delft TU. Worked 6 months as a private school teacher and member of the EPFL racing team. Fulfilled military obligations in early 2023, and currently at EPFL, pursuing my masters in micro engineering and minor in quantum science and engineering.

## EDUCATION

<b>Master of Science</b>	<b>EPFL - Swiss Federal Institute of Technology</b>	2023 - 2025
Major in Micro Engineering and Minor in Quantum Science and Engineering (GPA : 95%)		
<b>Academic Exchange</b>	<b>TU Delft - Delft University of Technology</b>	2021 - 2022
Faculty of Electrical Engineering, Mathematics and Computer Science (GPA : 90%)		
<b>Bachelor of Science</b>	<b>EPFL - Swiss Federal Institute of Technology</b>	2019 - 2022
Major in Micro Engineering (GPA : 88%)		

## ACADEMIC PROJECTS

### Student Engineer, EPFL - Racing Team & Rocket Team

Fitted a package of sensors on a RC car to test an autonomous driving system. Applied it to the EPFL Racing Team's electric racecar and passed scrutineering for international formula SAE competitions.

Designed and built a Yagi-Uda RF antenna with the help of Dr. Ismael Triviño. Later successfully recovered the telemetry of three model rockets, at a launch event of the EPFL Rocket Team. With limited prior experience, I self-studied the relevant antenna theory.

3D Printing  
AVR MCU  
CAD & FEM  
Self-Study  
Teamwork

### Bi-morph Thermal Micro-actuator, EPFL - Cmi

Supervised by Dr. Jürgen Brugger & PhD student André Chatel. Microfabrication and characterization of a thermally actuated, flexible cantilever in the context of the MEMS Practicals class. Acquired valuable hands-on experience with state-of-the-art clean room equipment and processes.

Lithography  
PVD, CVD  
SE Microscopy

### Control Systems for Inverted Double Pendulum, TU Delft - DCSC Lab

Supervised by Dr. Riccardo Ferrari. Developed LQR stabilizer and PID input disturbance rejection algorithms for a double inverted pendulum. This required up-front data-driven system identification.

Matlab, Simulink  
Mathematica

### License Plate Recognition Algorithm, TU Delft

Developed a computer vision pipeline to extract license plate numbers from video input with 93% accuracy. Made use of SIFT classification for feature extraction and color segmentation for localization.

Python  
OpenCV, NumPy

### Compliant Mechanism for Ultrafast Laser Processing, EPFL

Supervised by Pr. Simon Henein. Designed and simulated a dynamically compensated flexure mechanism for high frequency laser scanning. Awarded special mention in the context of the *Mechanism Design* class.

CAD, Simulation  
Flexure Design

## WORK EXPERIENCE

### Private School Teacher, INPV

Created a preparatory curriculum for future and current EPFL freshmen and taught the said course to around 50 students during a semester.

Jul 2022 - Jan 2023

### Teaching Assistant, EPFL

Assisting Dr. Giovanni Boero, Dr. Yves Perriard and Prof. Bertrand Lacour in tutoring students for Electromagnetism, Electronics, and Mechanical design classes, respectively.

Sep 2020 - Today

### Mechanical Machining Internship, ETML

Gained practical expertise in precision machining, a valuable asset in an engineering curriculum.

Aug 2021

## OTHER ACTIVITIES

<b>EPFL Coaching Association</b>	Oversaw a dozen newly arrived students, ensuring their seamless social and academic integration at EPFL; with particular focus on navigating the challenges of the pandemic.
<b>Volleyball Player:</b>	Outside hitter for my local club and for the Kratos 2 <sup>nd</sup> league team during my exchange.
<b>Mathematical Physics Hobbyist:</b>	Self-studying ZFC Set theory, Topology, Differential Geometry and General Relativity.

## CERTIFICATIONS & AWARDS

<b>C2 Certificate in Advanced English, Cambridge University Press</b>	2019
<b>Nestlé Prize for Excellence in Mathematics and Sciences</b>	2016

## LANGUAGES & SKILLS

<b>French</b>	Native Speaker	<b>English</b>	Bilingual Proficiency	CEFR C2
<b>Italian</b>	Native Speaker	<b>German</b>	Advanced Proficiency	CEFR B2
<b>Programming</b>	Python, NumPy, OpenCV, C/C++, Matlab, Mathematica, AVR Microcontrollers			
<b>Prototyping</b>	Solidworks, Catia V, Fusion, COMSOL, Machining, 3D printing, Soldering, Oscilloscope, Clean Room			
<b>Soft</b>	Proactive, Rigorous, Passion for learning, Teamwork			

## CONTACT INFORMATION

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