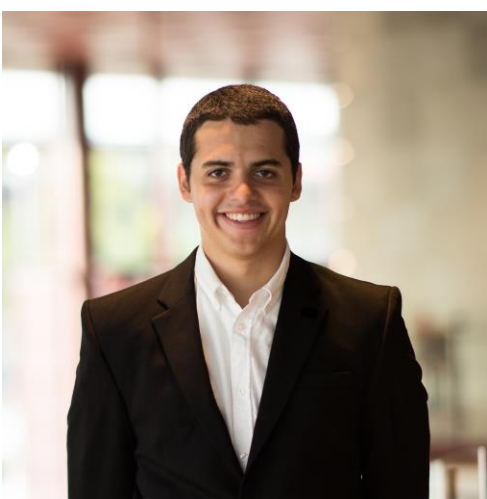


# Matheus Bernat

## Curriculum Vitae



Hard-working and reliable student with GPA 4.77/5.0, current exchange student at École Polytechnique Fédérale de Lausanne (EPFL) for study year 21/22. Passionate about tech competitions and research. Main study fields: signal processing, computer vision & machine learning.

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1998-10-07

### Work Experience

09/2020 – present

#### Autonomous car engineer

LiU Formula Student Driverless

Working to make the university's formula student race car driverless. Architected the general project with ROS, designed the planning and control module, and now working with integration of sensors to the car's computer. **Technologies:** C++, ROS, embedded systems, planning and control.

06/2020 – 07/2020

#### Software developer, summer work

Veoneer Sweden

Worked with front-end web development and testing in the Continuous Integration team. Developed and bug-fixed one of Veoneer's internal websites and created the front-end of a new webpage for the company's developers. I did that together with two other summer-workers. **Technologies:** Vue.js, Vuetify, CSS, Javascript and FastAPI.

11/2019 - present

#### Course assistant at university courses

Linköping University: IDA and ISY

Course assistant at TSTD18 Signals and Systems and ETE318 Elements of AI. Responsibilities include rating students' labs, answering theoretical and administrative questions, writing the course's final tests and reporting results. During the time I've been an assistant, ~800 students have passed ETE318, and ~120 undergraduate students passed TSDT18. **Technologies:** MATLAB and Python scripting, Signals and systems.

08/2018 - 08/2020

#### Robotics engineer

FIA Robotics

I was involved in a project called "LiUHomeWreckers" where we developed software for the Pepper robot. In 2019, we competed at RoboCup@Home, in Australia, achieving a 4<sup>th</sup> place out of 7 teams. I wrote the NLP module and the state-machine for the decision-making module. **Technologies:** Python, Google Dialogflow, ROS & Git.

01/2018 – 06/2018

#### IT Technician

Linköping University's IT Section

Worked with diagnosing, maintaining and repairing hardware equipment at the university computer labs. Responsibilities included also installing and configuring computer software, as well as being the primary point of contact for IT support from the users.

02/2017 – 02/2021

#### Chairman of Linköping Young Catholics

Swedish Young Catholics

As the chairman of Linköping Young Catholics, it is my responsibility to lead a catholic youth group in St Nikolai's church consisting of ~20 members. Over 70 educational meetings about the catholic faith have been organized during this time. We also organize charity visits to the city's children's hospital Ronald McDonald house every semester and hold Sunday school lessons for kids aged 10.

### Education

University 08/2017 - 06/2022

**Linköping University, M Sc in Computer science & engineering.** GPA: 4.77/5.00

Exchange year, SEMP scholarship

**École Polytechnique Fédérale de Lausanne.**

### Skills

- Statistical data analysis
- Python, MATLAB, C++
- Pandas, Pytorch
- Computer vision
- Signal processing
- Git
- Front-end development
- Agile development
- Used to work independently and in teams

### Relevant courses

**@ EPFL (ongoing)**

- Applied data analysis
- Statistics for data science
- Visual intelligence machines & minds
- Image processing I

**@ Linköping university**

- Computer vision, 5/5
- Statistical sensor fusion 5/5
- Digital signal processing 3/5
- Multidimensional signal analysis 5/5
- Probability theory & Bayesian networks 4/5
- Neural networks & learning systems 4/5

### Languages

- English: Fluent
- Swedish: Fluent
- Portuguese: Fluent
- French: Elementary proficiency