MATHEUS V. BERNAT

INTRODUCTION

Hard-working last year master student with GPA 4.77/5.0, I am **Brazilian**-made, **Swedish**-formed and now being **Swiss**-fine-tuned. As a person, I am kind, adaptable, and responsible. Having work experience at both academia and industry, I enjoy applied research, specially in the fields of computer vision, signal processing and ML. I am now looking for a **master thesis in Fall 2022**.

PERSONAL INFO

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Age: 23 (October 7, 1998)

Nationality: Brazilian

SUMMARIZED TECH-SKILLS

- Python, C++, MATLAB
- Machine learning, mathematical modeling, statistical data analysis
- Computer vision: 3D reconstruction, image classification, object tracking
- Pytorch, Pandas, OpenCV, Numpy
- Embedded systems, ROS

LANGUAGES

Portuguese, Swedish: Native

English: C2

French: B1

EDUCATION

École Polytechnique Fédérale de Lausanne (EPFL), Exchange year
Fall 2021-Spring 2022 (ongoing)
Relevant courses: Applied data analysis, Visual intelligence, Statistics for data science, image processing.

Linköping university, M.Sc. Computer Science and Engineering, 4.77/5
Fall 2017-Fall 2022 (ongoing)
Relevant courses: Machine learning, Neural networks, Signal processing, Statistical sensor fusion, Computer vision, Advanced linear algebra.

WORK EXPERIENCE

Linköping university, Course & lab assistant 2019–Present
At the course Elements of AI, I am responsible for writing the final quizzes of the course, correcting written questions and for the general administration. A total of 1,242 students have passed the course since I started. At the course Signals and Systems, I, correct the four MATLAB labs of the 300 undergraduate students. These posts have taught me to be responsible. Tech: Python scripts, MATLAB. Soft: responsibility, teaching.

UMS Skeldar, Engineering intern, Summer 2021
I worked with mathematical modeling of sea and ship motion, and further simulation in MATLAB. The achieved simulations were used as a proof of concept to the company to further develop simulations of UAVs landing on moving ships. Tech: MATLAB, physical modeling.

Veoneer, Software engineering intern, Summer 2020
I, together with two other interns, built a new platform to follow the course of one's commits. The platform is up and running and is used by the 300 engineers in the company's site in Linköping. Tech: conceptual design, Vue.js, FastAPI. Soft: agile development, teamwork.

PROJECTS

EPFL, Computer vision and data analysis, Fall 2021 (ongoing)
At the course Visual Intelligence, I am now comparing the abilities of vision transformers and CNNs to detect semantic out-of-distribution data. At the course Applied Data Analysis, I am studying a dataset of quotations to understand who has a voice in the English-speaking media. Tech: Pytorch for object classification, Pandas, statistical data modeling.

Linköping university, Computer vision, Spring 2021
At the course Computer Vision, I completed two projects: object tracking and 3D multiview-reconstruction. Tech: Pytorch for bundle adjustment, multi-view geometry, statistics (Gaussian mixture models, Kalman filter).

Linköping university, Robotics associations, Spring 2019-Spring 2021
At the robotics association FIA, I developed the NLP module for the social robot, and achieved a fourth place with the team at RoboCup@Home in Sydney 2019. Also, at the driverless team of LiU Formula Student, I developed a planner and controller for a prototype autonomous RC-car. Tech: Python, C++, Robotics Operating System (ROS). Soft: teamwork.