MATHEUS V. BERNAT

INTRODUCTION

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

PERSONAL INFO

Chemin du Couchant 15, 1007 Lausanne, Switzerland

+41 782310010

matheus.bernat@gmail.com

linkedin.com/in/matheus-bernat

github.com/matheus-bernat

matheus-bernat.github.io

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
Responsible for writing the final quizzes, correcting written questions, and for the general administration of the Elements of AI class. A total of 1,242 students have passed the course since I started. Correcting the four MATLAB labs of the 300 undergraduate students for the Signals and Systems class. Learned to be responsible and to deal with students. Tech: Python scripts, MATLAB. Soft: responsibility, teaching.

UMS Skeldar, Engineering intern, Summer 2021
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
Built, in a team of 3, a new platform to follow the course of one's commits. The platform is up and running and is used by the 200 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)
Comparing the abilities of vision transformers and CNNs to detect semantic out-of-distribution data in the Visual intelligence class. Conducting data analysis on a dataset of 178 million quotations to understand who has a voice in the English-speaking media in the Applied data analysis class. Tech: Pytorch for object classification, Pandas, statistical data analysis, clustering.

Linköping University, Computer vision, Spring 2021
Completed two projects in the class of computer vision: 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
Developed an NLP module for the social robot of Linköping University's robotics team that won fourth place with at RoboCup@Home in Sydney 2019. Developed a planner and controller for a prototype autonomous RC-car at the driverless team of LiU Formula students. Tech: Python, C++, Robotics Operating System (ROS). Soft: team leadership, teamwork.