








ThomasKimble

MSc in Robotics and Space Technologies

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Education

MSc in Robotics

École Polytechnique Fédérale de Lausanne

 Sep 2019 - Ongoing  Lausanne, Switzerland

- Major in Robotics with Mobile Robotics orientation
- Minor in Space Technologies

BSc in Microengineering

École Polytechnique Fédérale de Lausanne

 Sep 2015 - Jul 2019  Lausanne, Switzerland

- Machining course included in curriculum

French General Baccalaurate

Collège du Léman

 Sep 2001 - Jun 2015  Versoix, Switzerland

- Scientific orientation with highest distinction (Mention très bien)

Work Experience

Designer and Web Developer

Maffi Racing

 Nov 2021 - Jan 2022  Geneva, Switzerland

- Designing, 3D modelling and producing high quality renders for the garage's redesign. Design of an Formula 4 car livery.
- Front-end web development for the company's website.

Software Engineering Intern

Cyberbotics

 Feb 2022 - Ongoing  Lausanne, Switzerland

- Adding features and settings to the Webots robotics simulator.
- Full-stack web development of webots.cloud, an online cloud based robotics simulation sharing platform.
- Migration of the Robotbenchmark.net online robotics benchmark platform to a new cloud based environment.

Hard Skills

Programming Languages:

- Javascript, Python, C++, C, PHP, MATLAB, Java

Web Development:

- Full stack development, HTML5/CSS/JS, Database managements, cloud technologies (Docker), REST APIs

Robotics:

- ROS, mobile robotics, aerial robotics, embedded systems, control systems, navigation and path planning algorithms

Data Science:

- Applied data analysis, data visualisation, Pandas, SQL, PySpark, Networkx

Artificial Intelligence:




- **Machine learning:** Clustering and Classification algorithms, scikit-learn, neural networks
- **Computer Vision:** Image processing techniques, Deep learning, PyTorch OpenCV, Mediapipe

Projects

Robotics


Wheeled Robotics

 Sep 2019 - Sep 2020  EPFL, Lausanne, Switzerland

- Implementation of computer vision, path planning, global and local navigation, and filtering for use of multiple Thymio robots. 
- Development of a line following algorithm using a PID controller with the e-Puck 2 robot - Nominated for the GCtronic Award. 
- Design of a two wheel robot in ROS with implementation of waypoint navigation and obstacle avoidance. 

Aerial Robotics - Laboratory of Intelligent Systems



 Sep 2020 - Jan 2021  EPFL, Lausanne, Switzerland

- Analysis of the effect of limited field of view on drone swarms using a state of the art predictive trajectory generation and collision avoidance algorithm 

Data Science and Software Engineering


Applied Data Analysis

 Sep 2020 - Jan 2021  EPFL, Lausanne, Switzerland

- Use of regression analysis, supervised learning and applied machine learning to train and analyse datasets.
- Data analysis scientific paper replication, and extension. 
- Analysis of the effect of Mobility on Friendship using a different models to predict how many friendships Foursquare users will make or break in a 22 month time period 

Embedded Systems

 Sep 2020 - Jan 2021  EPFL, Lausanne, Switzerland

- Development of a game on the Nintendo DS microprogrammed embedded system. Knowledge of the system architecture and game design. 

Space Technologies

Constellation of High Energy Swiss Satellites

 Feb 2020 - Jan 2021  EPFL, Lausanne, Switzerland

- EPFL Spacecraft Team's CHESS Mission Electrical Power System pole leader.
- Understanding of a Space Mission and implementing an EPS within a CubeSat platform.

Hobbies and Interests

Music: Performed guitar, drums and piano as part of multiple bands, orchestras as well as solo

Hockey: Played and captained multiple field and ice hockey teams in Geneva

Languages

English and French: Fluent

German: CEFR Level B1