ALEXANDRE CLIN DEFFARGES

✉ aclindeffarg@ethz.ch 📞 +33 6 65 22 43 71 🌐 alexandre-clin-deffarges.app in alexandre-clin-deffarges

Education

Master's degree in Robotic / AI, *ETHZ*   *Zurich, Switzerland - 2023-2025*

Global year exchange, *Tokyo Institute of Technology*   *Tokyo, Japan - 2022 - 2023*

Bachelor's degree in microtechnology, *EPFL*   *Lausanne, Switzerland - 2020 - 2022*
Grade : 5,23/6

Work Experience

Internship at SPOTS, Anti-Poaching Technology Development | Computer Vision, ROS2

Dinokeng game reserve , South Africa, 09/2024 - 12/2024, On site

At Dinokend Game Reserve, I developed models for poacher detection via drone and an autonomous patrol car. I created models to detect humans and animals in video, raising alerts for unwanted presence, and worked on recognizing poacher footpaths.

Internship at Infosys, NLP and RAG Modeling | Deep Learning, RAG

Bengalore , India, 06/2024 - 08/2024, On site

I developed a model to classify and transform multimodal data (emails, PDFs, images, graphs) into structured data for a Retrieval-Augmented Generation (RAG) model, enhancing data processing and retrieval.

AI Specialist – Automating Student Essay Evaluation through LLMs - IBE | LLMs, Python

Zurich , Switzerland, 04/2024 - now, Remote

Alongside my other work, in my 40% part-time position at IBE, I dedicated my efforts to leveraging AI and LLMs to automate the grading of students' language essays. This aimed to optimize the evaluation process and improving its efficiency.

Internship at the Space Domain - Swiss Army | Signal processing, Machine learning, Github

Lausanne, Switzerland, 05/2023 - 08/2023, On site

During my internship at Solenix, I consulted on Swiss Army Space Domain projects, calculating satellite deltaV and fuel consumption using historical data, and applying signal processing and machine learning with Python and Java (https://space-campus.ch/).

Internship of manufacturing - ETML | Manufacturing

École technique École des métiers, Lausanne, 07/2022 - 08/2022, On site

During this internship, I learned drilling, milling, turning, brazing, and sawing by making various parts with different machines.

Projects and Research

AI for Education: Transforming Learning Experiences - TalentKick Incubator

Zurich, Switzerland, 01/01/2024 - now

As part of the TalentKick incubator (https://www.talentkick.ch/), I built a team to develop an AI-powered education project that won the CHF 5,000 incubator prize. Our solution leverages AI to help students prepare for exams and enhances educational experiences.

Spatial reasoning from LLM for global navigation - ETHZ | LLMs, python

Zurich , Switzerland, 15/02/2024 - 15/06/2024, On site

For my semester project, I tested the spatial reasoning capabilities of LLMs, such as GPT-4, to enhance robot navigation in very diverse environments. The aim was to evaluate the strengths and weaknesses of LLMs, followed by testing with the ANYmal robot.

Robotic Hand project - ETHZ | Robotic, Computer vision, CAD , RL

Zurich, Switzerland, 09/2023 - 01/2024, On site

For a project at ETHZ, I led a team of five to design and build an articulated robotic hand from scratch with a CHF 250 budget. I applied skills in computer vision, design, fabrication, reinforcement learning, control, and testing to achieve object manipulation.

Learning Recovery Maneuvers for Robotic Parkour - ETHZ | Reinforcement Learning

Zurich , Switzerland, 15/02/2024 - 15/06/2024, On site

As a semester project, I had to train a policy, using Reinforcement Learning in order to teach the robot ANYmal (https://www.anybotics.com/robotics/anymal/) to know how to fall and reduce it's damage.