Albéric de Lajarte

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Experiences:

Professional:

LASA (Learning Algorithms and System Laboratory): Nov. 2021 – Nov. 2022
Fixed term: Research engineer
- Academic research related to the control of robotic system in collaborative environments
- Delivered new programming exercises to 60 master students every week for a course on control and planning using machine learning

ClearSpace: July 2021 – August 2021
Internship: Dark room setup
- Control of a mechanism to train vision-based navigation algorithms
- Remote control of mechanisms, GNC sensors, and optitrack

RUAG Space: September 2020 - December 2020
Internship: Research for GlexSys (ESA project) and internal R&D
- Design and tradeoff on bi-phasic gas-liquid transfer technologies
- Development of a lab setup to demonstrate ozone sterilization

Gait Up: July 2020 - August 2020
Freelance project: Calibration mechanism for IMU
- Design and manufacture of a three axes mechanism
- Automatic control and calibration sequence to divide calibration time by 6

Academic:

Control Laboratory: December 2020 - July 2021
Master thesis: GNC algorithms of a sounding rocket
- Optimal control and guidance using Model Predictive Control
- Real time simulator based on ROS environment

EPFL Rocket team: March 2018 - July 2021
Student project: Student developed sounding rocket
- 1st year: Avionics team leader: main electronic used for navigation, control and ground communication
- 2nd year: System engineer: supervision of the Avionic, Recovery, Simulation and Ground segment sub-systems
- 3rd year: Project Manager of Project Icarus: started new project on active stabilization and guidance of the rocket.

Advanced Quantum Architecture Laboratory: January 2019 - June 2019
Semester project: Super resolution system for thermal imagery
- Development of a two degree of freedom mechanism (pan-tilt)
- Low level motor control, image acquisition and processing

EPFL Space Center (CleanSpace 1): September 2018 - December 2018
Semester project: Simulation of a space Rendez-vous
- Design of a facility for ground testing
- Simulation of the facility with Gazebo and ROS

Skills:

Control, navigation and simulation of systems:
- Sensor fusion, extended Kalman filter
- Linear control, optimal control, model-based control
- System identification, data acquisition and processing

Embedded system and programming:
- Electronic circuit and printed circuit board design
- C/C++/Python/Matlab & Simulink
- ROS, Linux, Git, Command Line Interface

Manufacture and design of 3D part:
- Fusion 360, CATIA
- CNC, 3D printing and conventional machining

Miscellaneous:
- Microsoft Office (Excel, Word and PowerPoint)
- First aid training level 2 IAS
- Languages: French (native), English (fluent), Spanish (basic)

Education:

- **École Polytechnique Fédérale de Lausanne (EPFL):** Master in Robotic, minor in Space technologies *(2018-2021)*
- **École Polytechnique Fédérale de Lausanne (EPFL):** Bachelor in Microtechnic *(2015-2018)*
- **AVDC:** Initiation to choir conducting *(2019)*
- ***Forma*Med:** BLS-AED training and first responder IAS level 1 and 2 *(2017-2019)*
- **Lycée des Chartreux**: Baccalauréat Scientifique, with highest honour *(2012-2015)*

Hobbies:

- Musician: piano and singing, bases in bass guitar and ukulele
- Photography, cooking, DIY and repairing everyday objects