



Alexandre LABAU

Date of birth: 09/08/2000 | **Nationality:** French | **Phone:** (+33) 786345497 (Mobile) | **Email:** alexandrelabau@outlook.fr

ABOUT MYSELF

Holder of a double master's degree in **Mechanical Engineering** between **KTH Royal Institute of Technology (Stockholm)** and **ENSE3 - Grenoble INP**. I aspire to **design** tangible solutions to support the development of **cutting-edge technologies and physics research**.

EDUCATION AND TRAINING

2023 – 2024 Stockholm, Sweden

DOUBLE MASTER'S DEGREE IN MECHANICAL ENGINEERING KTH - Royal Institute of Technology

- **7th worldwide** in **Mechanical Engineering** (ARWU Shanghai 2024).
- **Courses** : Industrial Design and Mechanical modeling (CAD with ISO GPS compliance on CATIA & SolidWorks), Structures and materials, Solid Mechanics (materials strength, elasticity), Structures and materials (fatigue, failure), FEM (plastic & elastic deformation, buckling local & global instability, modal analysis vibrations on ANSYS and Abaqus), Lightweight structures, Thermohydraulic, Heat and mass transfers (cooling and HVAC systems), Modelling and analysis of flows.

2021 – 2024 Grenoble, France

MASTER'S DEGREE IN MECHANICAL ENGINEERING UGA, ENSE3 - Grenoble-INP

2018 – 2021 Grenoble, France

BACHELOR'S DEGREE IN MECHANICAL ENGINEERING UGA, ENSE3 - Grenoble-INP

WORK EXPERIENCE

 **EUROPEAN SPACE AGENCY – PARIS, FRANCE**

MECHANICAL ENGINEER FOR THE ARIANE 6 TRANSITION PROGRAMME – 02/09/2024 – 28/05/2025

- **Mechanical design** of sensor housings for ESA industrial lines, from **2D and 3D CAD** modeling to manufacturing and assembly. Reference letter attached.
- Design and development of connected MEMS sensors and a Python application to optimize **mechanical predictive maintenance**; the code is now available under **ESA license**.
- **Management of tender process and selection** of industrial-grade sensors to be **deployed in international companies**.
- Monitoring of sensor implementation and **writing of detailed technical documentation to ensure correct integration**.

 **KTH ROYAL INSTITUTE OF TECHNOLOGY – STOCKHOLM, SWEDEN**

CAD PROJECT LEADER – 05/02/2022 – 15/05/2023

- Led an **international** team to develop a mechanical system from **the plans drawing and the 3D modeling on CATIA & SolidWorks** (ISO GPS compliant) to **components integration and assembly** on the software.
- Practical experience in **agile project management, technical communication** and **multicultural teamwork**.
- Project supervised by the astronaut Christer Fuglesang, a reference letter is attached.

 **UNIVERSITAT POLITÈCNICA DE CATALUNYA (UPC) – BARCELONA, SPAIN**

MECHANICAL LABORATORY ENGINEER – 01/06/2023 – 02/08/2023

- Open-ended problem-solving from the **CAD (CATIA V5 in 2D & 3D) to finite element studies conclusions (ANSYS)**. Reference attached.

 **CATERPILLAR – ECHIROLLES, FRANCE**

MECHANICAL ASSEMBLY TECHNICIAN – 01/06/2022 – 02/08/2022

- Gained **practical mechanical experience** on industrial assembly lines for heavy systems.
- Developed hands-on skills in mechanical assembly and production workflows on manufacturing lines.

LANGUAGE SKILLS

Mother tongue(s): **FRENCH**

Other language(s):

	UNDERSTANDING		SPEAKING		WRITING
	Listening	Reading	Spoken production	Spoken interaction	
ENGLISH	C2	C2	C1	C2	C1
SPANISH	B2	B2	B1	B1	A2

Levels: A1 and A2: Basic user - B1 and B2: Independent user - C1 and C2: Proficient user

SKILLS

Python | C | C++ | MATLAB | Arduino | Raspberry Pi | LaTeX | Microsoft Office

CAD & FEM

CATIA V5 | SolidWorks | Creo | ANSYS | AutoCAD | Abaqus | design with ISO GPS norms

SOCIAL & POLITICAL ACTIVITIES

2022 – 2023 Grenoble

Active member of the International Students Organization

Responsible for welcoming and integrating Erasmus students (+1000) coming to all Grenoble-INP schools (scheduling, planning and staffing).

RECOMMENDATIONS

Michael Mallon JP in Digital Spacecraft Mechanical Design & Verification

Email michael.mallon@esa.int | Phone (+31) 641360355

Nicoletta Wagner Space Transportation Infrastructure Project Manager

Email nicoletta.wagner@esa.int | Phone (+33) 649210413

Robert Arcos Villamarin UPC Associate Professor - Mechanical Engineering Department

Email robert.arcos@upc.edu | Phone (+34) 937398053

Christer Fuglesang KTH Professor, Former ESA Astronaut, Director KTH Space Center

Email cfug@kth.se | Phone (+46) 87906465

HOBBIES AND INTERESTS

Hobbies

Handball : Regional Champion 2016-2017 & 2017-2018

Judo : Brown belt

Triathlon : In preparation

Drawing : Basquiat oriented

Guitar : Autodidact