

Alexandre Bernard



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Aerospace engineering student with hands-on experience designing cryogenic fluid systems for aircraft propulsion at Safran. Strong background in CAD, mechanical design and multi-disciplinary projects. I am seeking an internship in the aerospace sector starting Sept/Oct 2026.

Education

Master of Science in aerospace engineering 2023-2026

Arts et Métiers, Bordeaux France

- **Coursework:** aerospace systems and propulsion | composite material design | fluid dynamics | fatigue in aeronautical components | mechanical vibration analysis

Intensive Undergraduate class in Mathematics and Physics 2023-2026

ESEO, Angers France

- **Coursework:** Advanced Calculus | Thermodynamics | Computer science

Professional Experience

Mechanical & R&D Engineering Intern 2026

Safran Aerosystems, Compiègne France

- Designed fluid routing systems for a hydrogen aircraft engine demonstrator. Performed mechanical stress and vibratory analysis
- Conducted research on the mechanical effects of hydrogen embrittlement phenomena on steel alloys

Engineering Consultant 2025

Arts & Métiers, Angers France

- Responsible for the design choice and project management for a custom Python/Rust FEA solver for scaffolding structures.

Production Intern 2024

APMA, Angers France

- Performed machining and quality control on aerospace metallic components.

Projects

Ceramic casting simulation using neural networks 2025-2026

APMA, Angers France

- Performed CFD computations for ceramic casting simulations and optimized them using neural networks

Material & Machining Research Project 2025

Arts & Metiers, Angers France

- Conducted a 10-week study on cryogenic assistance effects on tool wear for Bulk Metallic Glass machining

NASA Space App Challenge 2023

NASA, Remote

- Developed a python-based machine learning algorithm to analyze DSCOVR satellite data.

Skills

- French (Native), English (Proficient 985/990 TOEIC), Spanish & German (Basic knowledge)
- Proficient in CATIAV5, intermediate level in ABAQUS and StarCCM+
- Head of Arts & Métiers Programming Club in 2025: Advanced programming skills in Python, Rust, Javascript and SQL databases.