Heiefitu Taiaapu

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Summary

Final-year aerospace engineering student, I'm passionate about propulsion systems and motivated by working on test benches to validate real engine performance. I have skills in project management, 3D designing and simulation and I'd like to deepen my skills by working directly on the tests phases of engines to optimise their performance.

Education

ELISA Aerospace — Bordeaux, FR
Aerospace Engineering Degree. GPA [3.4/4] — Graduation Date 2025
Relevant courseworks : Space Mechanics, Space Launchers Sizing, Space Propulsion, Missile Sizing, Aerodynamics, Guidance, Space Communications, Linear Systems, Machine Learning, CAD, CFD, FEA.

Diadem High School — Tahiti, FR
Science baccalaureate. Honours — 2020

Experience

Air Tahiti — Faaa, French Polynesia
Safety & Security Engineer Intern — Aug. 2023 – Nov. 2023

- Designed and programmed an Excel-based application integrating over 20 bowtie diagrams, establishing the department's risk management framework.
- Created a data entry module to capture and analyse over 1000 events, assessing the effectiveness of safety barriers during flight incidents.
- Automated statistical analyses to provide key insights into safety measure efficacy, supporting continuous improvements in flight safety practices.

Civil Aviation Authority of French Polynesia — Faaa, French Polynesia
Airport Operator Intern — July 2021

- Conducted comprehensive evaluations of field reports to identify root causes of aviation events.
- Authored 12 detailed experience feedbacks reports (RETEX/REX), providing field agents with clear understanding of incidents, contributing factors and prevention strategies.
- Developed and implemented corrective action plans based on REX from aviation personnel.

Projects

Interceptor Missile - *ongoing*

- Evaluating the optimal dimensions of a missile for an interception missile by analysing the performance under aerodynamic and structural constraints, including length, diameter and aspect ratio.
- Assess the missile's trajectory and guidance system to ensure accuracy and efficiency during operational scenarios.
- CAD designing and CFD analysis to refine the missile's geometry and validate aerodynamic performance.

Hypersonic Aerodynamic - *Oct. - Nov. 2024*

- Developed a MATLAB-based simulation to analyse aerodynamic phenomena in hypersonic flow, focusing on shock waves on the geometry.
- Evaluate the effects of varying flow velocities on pressure, temperature and aerodynamic forces.

Airship Prototype - *June 2023*

- Designed and implemented the control surfaces of a helium-inflated airship, including cabling and structural integration
- Developed and tuned a PID controller to achieve stabilised flight under varying operational conditions.

Skills

Softwares: Fusion 360, 3DX CATIA, Simulia Abaqus, ANSYS Fluent, MATLAB & Simulink, AGI STK.
Languages: French (Fluent), English (C1), Spanish (B1)
Programming languages: C++, Python, MATLAB, HTML, CSS, Javascript.
Qualities: Score as a team, creative, humility, rigorous, determination, fulfil commitments.