Rowan Jansens

Mechanical Design Engineer

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Education

Olin College of Engineering — Needham, MA
BS in Mechanical Engineering — September 2021 - May 2025

- **Relevant coursework:** Solid Mechanics, Mechanical Analysis, DFM, FEA, Thermodynamics

Skills

- **Fabrication:** Mill (CNC & Manual), Lathe, 3D Printing, Laser/Plasma/Water-jet cutting, TIG Welding, Composites
- **Software:** SOLIDWORKS, NX, Ansys, Fusion 360, HSM Works, Adobe Illustrator, DaVinci Resolve
- **Programming Languages:** MATLAB, Python, C, C++, LaTeX
- **Personal Interests:** FPV Drone Freestyle, Video Production, Additive Manufacturing

Experience

Space Exploration Technologies Corp. — Hawthorne, CA
Engineering Intern (Crew Starship) — May 2023 - August 2023

- Used industry-standard tools to design and manufacture different test fixtures
- Communicated with stakeholders and performed system-level requirements capture and design criterion review
- Planned and executed environmental survivability tests (thermal/vacuum/vibration) to assess hardware reliability

Olin Electric Motorsports (Formula SAE Electric) — Needham, MA
Mechanical Design Lead — September 2021 - Present

- Exercised leadership on mechanical subteam by organizing meetings, managing productivity, and delegating tasks
- Created part drawings and used a range of fabrication tools to manufacture components to their specified tolerances
- Engineered chain-tensioner mechanism to support reliable power transmission between 124kW electric motor and rear differential while reducing chain shock loading
- Developed analytical fusible-link simulation to inform battery segment design and validated model with thermal FEA and real-world testing

Olin Rocketry (Spaceport America Cup) — Needham, MA
Avionics Lead — September 2021 - Present

- Designed tightly packaged avionics suite with custom PCBs, aluminum support structure, integrated battery pack, and unified wire harnessing and retention mechanisms
- Implemented and tuned flight control software to detect rocket apogee using Kalman filtering and a suite of digital components including 9-axis IMU, barometric altimeter, and Teensy 4.1 microcontroller
- Validated system reliability with ground testing and showcased in-flight performance on launch to 1,600ft
- Established TelePy, an open-source ground station GUI used to visualize and log avionics flight data in real-time

Los Alamos National Laboratory — Los Alamos, NM
Engineering Intern — Summer 2020, 2021, 2022

- Developed and applied unscented Kalman filter algorithm to GPS data collected on current CubeSat mission to improve satellite orbital determination and prediction
- Tested algorithm on real flight data and demonstrated up to 20x improvement in ephemeris accuracy
- Published research paper in Department of Energy scientific database (DOI: 10.2172/1880471)

Dynamic Vibration Balancer — Needham, MA
Personal Project — January 2022 - May 2022

- Developed dynamic vibration balancer test stand for applications in micro turbojet research and manufacturing
- Wrote mechanical vibration simulation in Matlab to prove feasibility and functionality of design prior to fabrication
- Utilized digital accelerometers, optical encoders, and Arduino to collect measurements from test stand
- Achieved 3x reduction in vibrations amplitude from the test object before and after balancing