Mason Matich

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Education

Stanford University Sept. 2023 – Present
B.S. Student in Mechanical Engineering, Class of 2027 *Stanford, CA*

Work Experience

Build Reliability Engineering (BRE) Intern, Starship June 2025 – Sept 2025
SpaceX *Brownsville, TX*

- Responsible engineer for a portable Starship FOD control device for vehicle production (GSE)
- Tasks cover full lifecycle from initial design to serialized part production, including mechanical design, electrical design, and software development

Teaching Assistant, BWSI Build a CubeSat Challenge Sept 2024 – Mar 2025, Sept 2023 – Apr 2024
MIT Lincoln Laboratory (nextSource) *Virtual*

- National high school competition of ∼40 teams to develop 1U CubeSat with an optical payload for a simulated disaster response mission
- Create, test, and procure CubeSat hardware kits, update and expand online coursework
- Manage team progress, answer forum questions, and host weekly office hours with student participants

Space Systems Intern, Advanced Electro-Optical Systems (G99) Jun 2024 – Aug 2024
MIT Lincoln Laboratory *Lexington, MA*

- Interdisciplinary group (formerly Integrated Systems and Concepts) focusing on rapidly developing and field-testing innovative sensor systems for the persistent surveillance of wide areas in space and on the earth
- Designing and building prototypes involving a broad range of technologies including electro-optics, infrared sensors, novel focal plane arrays, embedded processors, and image processing
- Personal contributions include motion control tasks related to a satellite camera focus mechanism

Imaging Specialist & Ops Technician, Stanford Learning Technologies & Spaces Nov 2023 – Present
Stanford University *Stanford, CA*

- Remote management and maintenance of dorm computing clusters, A/V systems, computer decommissioning, and related tickets

Teaching Assistant, BWSI Remote Sensing for Disaster Response Jul 2023 – Aug 2023
MIT Lincoln Laboratory (nextSource) *Virtual*

- Revised and enhanced previous lecture and project materials
- Developed and delivered lecture on the history of Landsat and its uses for disaster response
- Managed small-group instruction

Projects

Satellites CoLead- Stanford Student Space Initiative Apr. 2025 – Present
Satellites Team *Stanford, CA*

- Lead of 40 person SSI Satellites team for the 2U SAMWISE program to launch Oct. 2025 on SpaceX Transporter 15
- General program management, including budget, schedule, and team organization
- Tasks from prior work as Structures Co-Lead and Mission Control Lead are carried over to this role

Mission Control Lead- Stanford Student Space Initiative Sep. 2023 – Mar 2025
Satellites Team *Stanford, CA*

- Management of all command and control (C2) tasks, including ground control systems, satellite health monitoring, orbit tasking, and telemetry and mission data storage and processing
- Personal technical contributions include the design and deployment of a 2400 MHz S-band ground station for high-speed photo downlink, reliability improvements to the UHF ground station, and the ground control and data storage architecture

Structures CoLead- Stanford Student Space Initiative Sep. 2023 – Mar 2025

Satellites Team *Stanford, CA*

- Management of bus development, heat management structures, camera baffles, deployables, and satellite integration/assembly
- Personal technical contributions include the redesign of bus components for laser cutting and the design/manufacture of hinges for the double-fold solar array using CNC milling and metal 3D printing

W6YX Radio Club Sep. 2023 – Present

President *Stanford, CA*

- Management, maintenance, and improvement of W6YX facilities
- Stanford community outreach through radio technology workshops & FCC licensing classes
- Focus on enhancing club technical expertise in digital and satellite radio communication

Meshworks - NLP LoRa Mesh Network for Emergency Response Feb. 2024

TreeHacks 2024- 1st Place, Intel: Best Use of Intel Developer Cloud *Stanford, CA*

- Mesh network of LoRa radio terminals for long-range resilient emergency communications in disaster scenarios
- Terminal NLP processing and summarization of voice messages for a text-only data mode to save bandwidth
- Automated emergency manager dashboard for reduced information overload at emergency management centers
- Personal contributions include the LoRa modem driver, mesh network routing algorithm, and terminal case design

Technical Skills

CAD: Siemens NX, Fusion360, SolidWorks, KiCad
Programming: Simulink, MatLab, Python, Git
Manufacturing: 3D Printing (FDM/SLA), CNC Milling, Fiber Laser Cutting, Sheet Metal Fabrication, Acetylene Welding
Prototyping: Motor Control, Soldering (SMD/THT), Circuit Debugging, Real-Time Microcontrollers, Embedded systems (Arduino/RP2040), UART/i2c/SPI
Amateur Radio: Amateur Extra Class, LoRa SatCom, Mesh Networks

Activities

- Stanford Student Space Initiative (SSI)
- Product Realization Lab (PRL)
- Stanford Undergraduates in Mechanical Engineering (SUME)
- Stanford W6YX Radio Club
- Lab64 Electrical Engineering Makerspace

Honors & Awards

Stanford TreeHacks 2024- 1st Place, Intel: Best Use of Intel Developer Cloud- Feb 2024
Regeneron Science Talent Search (STS) Scholar (Top 300 Nationally)- Society for Science- Jan 2023