



Jake Stollman

120 Turnberry Court, Beverly Hills, MI 48025 ♦ 248-563-3331 ♦ jakestollman@gmail.com

<https://www.linkedin.com/in/jake-stollman1> ♦ <https://www.jakestollman.com>

Aerospace Eng. senior at the University of Michigan planning to continue here with a Master's in Space Eng.

Education

University of Michigan

Ann Arbor, MI

MEng, Space Engineering

August 2024-May 2025

BSE, Aerospace Engineering

August 2020-May 2024

- Aerospace Classes: Orbital Dynamics, Aerodynamics, Model Based Systems Engineering, Aerospace Computing, Gas Dynamics, Dynamics and Vibrations, Integral/Differential Calculus, Data Structures, Propulsion, Lab Experience, Space System Design
- Working on preliminary design paper for next Michigan Exploration Lab (MXL) cubesat technology demonstration mission
- Designed orbital program in MATLAB from scratch to simulate trajectories of interplanetary spacecraft experimentally
- Modeled the decay of an orbiting satellite in MATLAB in order to determine velocity requirement for boosting orbit
- Leading instrumentation team for a student-based satellite development group developing a boomless spacecraft magnetometer

Skills

- **General:** Timelines/GANTT Charts, Technical Documentation, Systems Requirements Models/Diagrams, SRR/PDR Presentations, STEM communication, Writing, Graphic Design, Acronym Creation, Mission Patches/Branding, Website Design, >3,200 hrs on Kerbal
- **Programming Languages:** C, C++, Python, MATLAB, Overleaf/LaTeX
- **Software:** SolidWorks, Siemens suite, ANSYS, Simulink, Microsoft/Google suites, Capella for MBSE, Redmine, JMARS, LabView, STK
- **Hardware:** Power Supplies, Multimeters, Ammeters, Wind Tunnels, Function Generators, Soldering Tools, RF Equipment

Science and Engineering Experience

NASA SCaN Internship Program

NASA Glenn Research Center, Cleveland, OH

Engineer, LunarLiTES program

June-August 2023

- Developed an interface between Systems Toolkit (STK) and MATLAB ray-tracing algorithm for calculating effect of multipath RF LTE signals off the lunar surface between the IM-2 lunar lander and the Nokia rover in order to generate a simulated link budget
- Designed a program in MATLAB utilizing Dijkstra's Algorithm to generate an optimized trajectory for a simulation of the Nokia rover
- Presented to all SCaN interns, mentors, and various NASA HQ officers

Michigan eXploration Lab (MXL)

Ann Arbor, MI

Engineer

August 2022-Present

- Managed **on-orbit** satellite data storage, temperature, battery voltage telemetry using downlink data histograms
- Assisted in developing Python-based deorbit prediction algorithm by incorporating NRLMSISE-00 algorithm outputs
- Created 3D-printed walls, floor, and ceiling in SolidWorks to develop a 5/8U cubesat module while collaborating with a team of 9
- Completed PDR for FTU chaired by three professors to confirm design and begin development
- Operated thermal chamber and characterized resistor rope burn at 100,000-foot altitude conditions for the FTU

Formation Flying Space Interferometer (FFSI)

Ann Arbor, MI

Engineer, Optical System

August 2022-December 2022

- Technology demonstrator for a system of cubesats that work together to perform astronomical observations as part of a Model-Based Systems Engineering course project
- Performed optical system design in a 3-person subteam, including gimbal, beam-splitter, and a camera for metrology as well as observation laser beacons for system with 150-arcsecond resolution
- Completed SRR and PDRs chaired by various industry executives, astronomy department faculty, and aerospace course faculty

NASA L'SPACE Mission Concept Academy

Virtual

Science Team Lead

August 2021-December 2021

- Lead a 9-person team of undergraduates in developing scientific instrumentation and performing trade-studies on legacy instruments for a hypothetical Mars lander, resulting in a 53-page PDR
- Investigated Martian resources with JMARS software for suitable landing sites to land at and characterize ice for human exploration
- Directed and delegated scientific instruments for each member and managed resulting documentation/PDR
- Characterized size, mass, power requirement, data transfer, etc. for Wet Chemistry Lab and Neutron Spectrometer

Extracurriculars

Sigma Gamma Tau

Ann Arbor, MI

Member

January 2022-Present

- Participating in aerospace honors society in social events, academic events, career workshops, and community service events

Michigan Writers' Community

Ann Arbor, MI

President

August 2021-Present

- Managing weekly club of more than 40 people in which writers bring stories to read and workshop with other members
- Organizing social and writing-related events including bookstore trips, bowling, and editor workshops

Science Fiction Novel: [Vision of the Veil](#)

Spring 2020-Present

- Completed ~110,000-word hard science fiction-fantasy novel released 2/4/24 on Amazon
- Includes realistic science concepts like comms systems jamming, space vehicle tracking, genetic engineering, colony ships, etc.
- Self-publishing experience includes learning the publishing business, marketing campaigns, leveraging search engine optimization