**Hirsh Kabaria**

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# Education

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| University of Michigan (Ann Arbor, MI) | May 2024 |

Bachelor of Science in Engineering in Aerospace Engineering

Minor in Computer Science

GPA: 3.6

Notable Classes: Intro to Solid Mechanics and Aerospace Structures, Intro to Gas Dynamics, MATLAB Applications for Engineers

# Experience

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| Michigan Aeronautical Science Association (MASA) | August 2020 – Present |

Business Lead (2021-Present):

* Managing over $100,000 in funding, with experience in grants, sponsorships, and crowdfunding
* Forming and maintaining relationships with key sponsors
* >600% growth in social media reach on Instagram and Twitter
* Worked with local airports to find a permanent test site for long duration, high impulse testing.
* Overseeing the design and sourcing of merchandise for a team of 200+ people

Clementine: A Record-Breaking Liquid Rocket to be Launched Summer 2022

* Leading the development of a composite deployment and separation mechanism for rocket recovery.
* Aiding in systems engineering and timeline management for the aerodynamics and recovery team.
* Working with industry leading companies and other project teams to design and build high-strength composite aerostructures.

Tangerine Space Machine: MASA’s Liquid Fueled Spaceshot

* Led a team of 3 to design a fin testing stand for use in the university’s 5x7 150mph wind tunnel.
* Conducted a Finite Element Analysis study of Separation Mechanism Bending Moment and iterated design to prevent part failure.
  + Performed a trade study to determine the best springs to use on the separation mechanism to ensure separation in an abort case.
* Worked with multiple teams to coordinate the layout of our ground support equipment electrical box and optimize the internal placement of boards, lighting, and power while maintaining waterproofing.
* Worked on 2 PDRs and 1 CDR for these projects.

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| Michiganensian Yearbook | August 2020 – Present |

Staff Photographer

* Photographing campus athletics, life, and events, as well as stock photos and portraits for the official yearbook of the University of Michigan, now in its 126th edition

Projects

* Drone Simulation: Worked with a team of 4 to simulate a drone delivery system in a custom simulation environment.
  + Designed a mock factory floor in SOLIDWORKS and imported it into the simulation software.
* FED Solver: Implemented a Finite Element Difference Solver in MATLAB to simulate heat flow in a rod using PDEs.
* Neural Network: Used the Monte Carlo method of flipping neurons to create a network trained on letters in MATLAB.

Skills

* SOLIDWORKS for CAD
* Ansys Mechanical for Finite Element Analysis (FEA)
* Photography and Adobe CC (Lightroom Classic, Photoshop, Premiere, Illustrator, InDesign)
  + Portfolio at <https://www.flickr.com/people/hirsh_kabaria/>
* Programming (C++, Java, MATLAB)
* MS Office (Master Certified)