Hirsh Kabaria

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# EDUCATION­­­\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

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| **­­****University of Michigan** | **May 2024** |
| Aerospace Engineering, Bachelor of Science in Engineering | Ann Arbor, MI |

Computer Science, Minor

3.6 / 4.0 GPA

Notable Classes: Dynamics and Vibrations, Aerodynamics, MATLAB Applications for Engineers, Aerospace Structures and Solid Mech

Honors and Memberships: ΣΓΤ Honor Society (Initiated Dec ’21), Dean’s List (Winter ’20), AIAA (Since ’20)

# SKILLS \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Engineering Administration:** Project Management, Business and Government Relations, Team Leadership, Systems Engineering

**Engineering:** Finite Element Analysis (Ansys Mechanical), CAD (SolidWorks & NX w/ Teamcenter), MATLAB

**Computer:** C++, Java, LabVIEW, Ubuntu, Adobe CC (Lightroom Classic, Photoshop, Premiere, Illustrator), MS Office Master Cert

**Photography:** Journalism, Sports, Events, Portrait, Film

Engineering Portfolio: <https://medajor.github.io/Hirsh%20Kabaria_Portfolio.pdf>

Photography Portfolio: <https://www.flickr.com/people/hirsh_kabaria/>

# EXPERIENCE \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

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| **Lead, Business Division** | **May 2021 – Present** |
| [Michigan Aeronautical Science Association (MASA)](https://masa.engin.umich.edu/) Rocket Team | Ann Arbor, MI |

* Leading a team of 5 to manage over $100,000 in funding, design team merchandise, and oversee public relations.
* $28,000+ raised in NASA and UMich grants, corporate sponsorships, and crowdfunding.
* 600% growth of the team’s Twitter, Facebook, and LinkedIn pages through engaging visual content.
* Collaborated with NASA, airport, and local authorities to find a suitable liquid engine test site.
* Panelist at AIAA SciTech 2022 discussing student rocketry and the creation of the Academic Rocket Launch Alliance.

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| **Engineer and Project Manager, Aerodynamics and Recovery** | **August 2020 – Present** |
| [Michigan Aeronautical Science Association (MASA)](https://masa.engin.umich.edu/) Rocket Team | Ann Arbor, MI |

* Coordinating requirements, deadlines, funding, and designs between the nosecone, recovery, and airframe teams to facilitate nosecone attachment and separation as part of our recovery sequence.
* Synchronized multiple teams to deliver the electrical box for our ground support equipment in a three-week timeframe, perfecting the internal placement of boards, lighting, and power while maintaining water and dust resistance.
* Designed a Fin Test Stand to validate fin tolerances and roll rate in a 150 mph 5’ x 7’ wind tunnel.
* Conducted FEA and trade studies to optimize design of former separation mechanism to ensure survival given significant bending moment and abort case considerations.

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| **Photojournalist** | **August 2020 – Present** |
| [Michiganensian Yearbook](https://www.michiganyearbook.com/) | ­Ann Arbor, MI |

* 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.
* Notable Assignments: Glass Animals Concert, Michigan Football, Graduate Employee Strike, Michigan Women’s Basketball

PROJECTS\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

* Collaborated with a team of 4 to propose a design for and simulate a drone delivery system for use in a large machine shop.
  + Designed a mock factory floor in SOLIDWORKS and imported it into the simulation software.
* Implemented a Finite Element Difference Solver in MATLAB to simulate heat flow in a rod using partial differential equations.
* Used the Monte Carlo method of flipping neurons to create a network trained in optical character recognition using MATLAB.
* Organized an outreach event to local high schoolers teaching resume writing and answering questions about STEM in college.
* Performed FEA on wing spar attachment and motor mount for UMich’s AIAA Aircraft Design-Build-Fly team, [MACH](https://www.mach.engin.umich.edu/).