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 GPA

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

SKILLS\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

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

**Engineering:** Finite Element Analysis (Ansys Mechanical), CAD (SolidWorks & NX), MATLAB, Manufacturable Design, Procurement

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

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

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

EXPERIENCE\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

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| **Business Lead** | **May 2021 – Present** |
| Michigan Aeronautical Science Association (MASA) | Ann Arbor, MI |

* Leading a team of 5 to manage over $100,000 in funding, design team merchandise, and manage public relations.
* Raised over $28,000 in grants, corporate sponsorships, and crowdfunding.
* Grew team social media by over 600% between Twitter and Facebook.
* Collaborated with airport and town authorities to find a suitable liquid engine test site.

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| **Aerodynamics and Recovery Engineer** | **August 2021 – Present** |
| Michigan Aeronautical Science Association (MASA) | Ann Arbor, MI |

* Leading a team developing a composite separation mechanism to survive supersonic flight and ensure rocket recovery.
* Coordinated ground support equipment electrical box between multiple teams and optimized internal placement of boards, lighting, and power while maintaining waterproofing.
* 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.
* Worked on 3 design reviews, currently establishing timelines for fins and nosecone as part of the aerodynamics team.

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| **Photojournalist** | **August 2020 – Present** |
| Michiganensian Yearbook | ­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

CLASS 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.