

**Aashutosh Aman Mishra**

[aashutosh@auburn.edu](mailto:aashutosh@auburn.edu) | +1 334 610-6443 | Auburn, AL 36830  
Vehicle Systems, Dynamics, and Design Lab (Website: [vsddl.com](http://vsddl.com))

Portfolio: [everestau.github.io](https://everestau.github.io)

LinkedIn: [linkedin.com/in/mishra-aashutosh](https://linkedin.com/in/mishra-aashutosh)

## SUMMARY

---

A highly motivated aerospace engineer with demonstrated expertise in aircraft design, flight dynamics and simulation, flight control law development, and aircraft & rotorcraft stability and control.

## AREAS OF SPECIALIZATION

---

Aircraft design; Flight dynamic model; Fixed-wing and rotorcraft aerodynamic model development; Flight test data processing and calibration; Aircraft stability and control; 6-DOF non-linear piloted/auto flight simulation model development.

## EDUCATION

---

**PhD Candidate, Aerospace Engineering, Auburn University** July 2025

*An Integrated Methodology for Vehicle Design Subject to Flying Qualities Constraints.*

GPA: 4.00

**M.Sc. Aerospace Engineering, Auburn University** May 2023

GPA: 4.00

**B.E., Mechanical Engineering, Tribhuvan University, Nepal** November 2017

GPA: 3.30

## PROFESSIONAL EXPERIENCE

---

**Ph.D. Candidate and Researcher** 2019 – 2025  
**Auburn University, Auburn, AL**

- Developed generalized tools for aircraft sizing, flight dynamic modeling and simulation, and real-time six-DOF flight simulation for novel advanced air mobility configurations aircraft.
- Performed aircraft and rotorcraft stability & control analysis and optimization, flight simulation development, and validation/calibration against flight test data.
- Developed aircraft performance and flight simulation software package in MATLAB/Simulink for customers (e.g. NASA) as a part of a funded project.
- Analysis and design of control law (CLAW) inner and outer loop functions for both fixed-wing and rotorcraft flight vehicles.
- Integrated aircraft longitudinal and lateral-directional flight dynamic characteristics, based on a fully nonlinear 6 degree of freedom flight simulation model, to meet the handling qualities guidelines defined by FAA Part 23 certification requirements.

- Tested and validated flight and propulsion control software with 6 degree of freedom simulation on desktop using in-house flight dynamic model generated using MATLAB/Simulink.
- Led the development, integration, and validation of aero-propulsive characteristics for novel eVTOL designs into the research flight simulators driven by a MATLAB/Simulink-based non-linear time domain simulation framework.
- Gained hands-on experience with flight simulator construction, flight control system design, flight control interface, control loading box modeling, visualization setup, and model calibration, to facilitate flight simulator operation.

## TEACHING EXPERIENCE

---

### Graduate Teaching Assistant (GTA)

2019 – 2020

- Tutored aircraft design tools like OpenVSP, XFOIL, QMIL/QPROP, and CFD (FlightStream®) to the aircraft design class.

## SKILLS

---

- **Software:** MATLAB/Simulink, Python, C/C++, FORTRAN, OpenVSP, FlightStream®, XFOIL, AVL, XROTOR, SolidWorks, CATIA, high-performance computing (HPC), Git.
- **Technical:** Flight simulator visual setup using warp and blend, control loading systems, mechanical workshop experience, 3D-printing, data postprocessing, and documentation.

## AWARDS AND ACHIEVEMENTS

---

- AIAA Orville and Wilbur Wright Graduate Award (2024)
- AIAA Luis de Florez Graduate Award in Flight Simulation (2022)
- AIAA Electrified Aircraft Technology Best Paper Award (2022)
- AIAA Aircraft Design Best Paper Award (2021)

## SELECT PUBLICATIONS ([GOOGLE SCHOLAR](#))

---

- Chakraborty, I., and **Mishra, A. A.**, “Generalized Energy-Based Flight Vehicle Sizing and Performance Analysis Methodology,” *Journal of Aircraft*, Vol. 58, No. 4, 2021, pp. 762–780.
- Chakraborty, I., and **Mishra, A. A.**, “Sizing and Analysis of a Lift-Plus-Cruise Aircraft with Electrified Propulsion,” *Journal of Aircraft*, Vol. 60, No. 3, 2023, pp. 747–765.
- **Mishra, A. A.**, and Chakraborty, I., “Flight Dynamics and Control Integration in Conceptual Design of an Advanced Air Mobility VTOL Aircraft,” AIAA AVIATION FORUM AND ASCEND 2024, 2024, Paper 4050.