Karanvir Singh

skaran1003@gmail.com | 515-916-8626
linkedin.com/in/karanvir-s

EDUCATION

Iowa State University | Junior Anticipated Graduation: Fall 2025

B.S. Aerospace Engineering GPA:3.76

PROJECT & PROFESSIONAL EXPERIENCE

Lab Technician | ISU Boeing Advanced Fabrication Laboratory April 2023 – Present

- Operated 3D-Printing (FDM, SLA, DLP) and CNC (3-Axis, Milling, Lathe, Router, Laser) equipment.
- Shortened production times on student & research projects.
- Created guides and safety documents on machine operation, training and maintenance.

Team Lead | OpenUAS - Fixed-Wing UAV Research 2023 – Present

- Developing interface methods for RPi and PX4 flight control systems through the NASA cFS software architecture to enable autonomous flight capabilities in modular fixed-wing UAVs.
- Deployed large scale photogrammetry capture and processing systems over long range flights using LiDAR and digital camera technology.
- Created fully 3D-printed aircraft with complex geometry that improved aerodynamic performance.

Payload & Hardware | NASA uSLI Rocket Launch Competition Fall 2022- Present

- One of five payload team members to develop a collapsible drone for rocket ejection-based deployment with an 8lb lift capacity.
- Achieved 1st place in the altitude accuracy category and 2nd in the overall competition (2024)
- Won Relativity Space 3D printing award (2023)
- Designed mission critical electrical layouts and schematics for payloads for the 2022-23 competition.
- Helped develop a fully 3D printed triple-axis gimbal and camera payload.

R&D Team | High Altitude Balloon Experiments Technology Spring - Summer 2023

- Created an autonomous balloon launch and deployment platform for large hydrogen-based balloons.
- Processed weather data and generated flight plans for suitable launch windows for high altitude launches.
- Worked on NASA's Floating Dragon Challenge and Muon Detection systems launches.

Undergraduate Teaching Assistant | Thermodynamics ME 2310 Fall 2024 – Present

Flight Dispatch Intern | Passion Air (Pisces Aviation Ltd.) July 2021 – August 2021

LEADERSHIP EXPERIENCE

Advisory Panel | American Institute of Aeronautics and Astronautics (AIAA at ISU) Fall 2024 - Present

President | American Institute of Aeronautics and Astronautics (AIAA at ISU) 2023 – Summer 2024

- Leading a 16-member team to manage the department's largest student organization and host several industry speakers, panels, and research projects for over **150 direct members** and the wider aerospace department.
- Facilitated the regrowth and success of the organization leading to a **76% growth** in membership.

MISE Research Scholar | International Math & Science Olympiad 2019-2021

- Created a software to generate police sketch through **machine learning** based on initial human description and further refine facial features to satisfaction, winning 2nd place in the ESKOM Energy Conference.

Team Lead & Mentor | FIRST Robotics Competition | ARIS Ghana 2018 -2021

SKILLS

- Tools: SolidWorks, MS Office, Adobe Graphical Suite, Linux, XFLR5, ROS, CURA 5, HAM certification
- Programming: Python, MATLAB, C, Visual Basic, G-code
- Spoken Languages: English, Hindi (Proficient), Punjabi (Proficient), French (Conversant)
- Volunteering: Over 300 volunteer hours in tutoring, planting, animal care, and surgery sponsorship projects.
- Miscellaneous Hobbies: Photography, Archery, Travelling, RC Builds.