SHIVAM SHARMA

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EDUCATION

University of Michigan - Undergraduate Senior September 2015 - Present
Major - Aerospace Engineering
Minor - Computer Science

EXPERIENCE

RedBrick AI [Work] January 2019 - Present
Co-founder, Developer

- RBAI is a configurable software platform for building and managing computer vision datasets
- Designed and built front-end using React-JS, HTML, CSS.
- Built backend (Python, AWS) functionality for automated/pre-labeling.
- On-boarded 2 research team customers using RBAI for generating self-driving car data-sets (MCity, UofM Aerospace Lab).
- Led marketing, lead-generation and customer discovery effort

ACAS Xa Neural Network Verification [Research] May 2018 - Present
Research Assistant, Department of Aerospace Engineering

- Worked on a joint project with Stanford exploring Aircraft Collision Avoidance using AI
- Co-authored paper, and presented peer-reviewed research at AAAI symposium at Stanford.
- Developed linearized safe region analysis approach to study ACAS Xa deep neural network behavior
- Using Formal verification techniques, analyzed DNN behaviour, and revealed thousands of counter-examples. Software written in Python and MATLAB.

Michigan Hyperloop (SpaceX Competition) [Project] September 2015 - September 2017
Co-Founder, Engineering Lead

- Team 1 of 23 (from over 300) selected by SpaceX to build a prototype vehicle (Competition I and II)
- Responsible for overseeing design and production of dynamic systems - levitation, braking and control
- Conducted analysis on magnetic halbach array forces and stability
- Manufacturing lead for Competition I as part of 'OpenLoop Alliance'.
- Manufactured 18ft. carbon fiber shell - design, tooling, layups.

Miniature Tether Electrodynamics Experiment [Research] January 2018 - December 2018
Orbits Attitude Determination Control team

- MiTEE at UMich aims at testing ED tethers as a propulsion concept for small satellites
- Wrote software on Arduino to communicate with IMU through SPI bus, and filter noisy data in real-time
- Designed test set-up to remotely test IMU using Raspberry Pi

TeamIndus (Google Lunar XPrize) [Work] May 2017 - June 2017
Spacecraft Structures Intern

- Selected as one of four companies for the GLXP - challenging companies to send a rover to the moon
- Built 3-DOF model on MATLAB to analyze landing accelerations and landing gear response
- Simulated crushable honeycomb core suspension and contact with lunar soil as non-linear spring forces on ADAMS to study accelerations and compression

TECHNICAL STRENGTHS

Computer Languages	C++, MATLAB, Python, HTML/CSS, Javascript, LaTex
Software Tools	React-JS, Flask, NumPy, GitHub