Shivam Patel

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EDUCATION:

University of Illinois Urbana Champaign **May 2024**
Bachelor of Science in Mechanical Engineering **GPA: 3.87/4.00**
Minor in Computer Engineering **Edmund J. James Honors Program Scholar**

PROFESSIONAL EXPERIENCE:

Undergraduate Research at Combustion Lab, *Research Assistant* Sept 2021-Present

- Improved a laser setup to image moving particles down to 400 microns
- Prepared specimens for spectroscopy and assisted in combustion chamber tests

CO-CURRICULARS:

Formula Electric SAE, *Member* Aug 2021-Present

- Drivetrain sub team member focused on the hub
- Ran finite element analysis (FEA) on drivetrain components to optimize design and reduced weight, while maintaining strength, by 5%

Eco-Illini, *Member* Aug 2020-May 2021

- Mechanical sub team member with a focus on optimization of the engine
- Designed part using CAD to mitigate the effects of vibrational forces within the vehicle, improved stability within the vehicle by over 50%
- Redesigned fuel line and improved flow, removed over 25% of unnecessary outlets

VEX Robotics, *Captain* Sept 2017-March 2020

- Led a team of 8 in design, planning, and implementation of a robot tasked to lift and stack blocks
- Managed the production of the robot, decreased total build time by roughly 20% from the year before
- Assisted in QA and QC testing of the robot and verified compliance with competition goals

PROJECTS:

Science Olympiad - *2 National Medals* July 2018-June 2019

- National 4th place - Engineering Event (Wright Stuff)
    - Designed and tested a biplane in which the sole source of power was generated with a rubber band. Achieved a flight time of 3 minutes and 50 seconds, placing 4th nationally after over 150 hours of testing
- National 3rd place - Engineering Event (Mousetrap Vehicle)
    - Created (3D printing + machining) and prototyped vehicles powered solely by an unaltered mousetrap, to travel varying specified distances in the fastest time possible. Placed 3rd nationally, where the vehicle stopped 2 cm. off the target distance of 10.5 meters
- National 9th place – WIFI Lab
    - Created a 10cm*10cm*10cm Wi-Fi antenna with capabilities of connecting to 40 meters away

RELEVANT COURSEWORK:

- Computer-Aided Design, Design for Manufacturability, Statics, Electrical & Electronic Circuits, Thermodynamics (Spring 2022), Solid Mechanics (Spring 2022), Dynamics (Spring 2022)

SKILLS:

Computer Languages: Python, MATLAB
CAD Software: Fusion 360, Solidworks, Apriori, AutoCAD
Technical: Microsoft Office, GD&T, Design for Manufacturing (DFM), Design for Assembly (DFA)
Prototyping & Testing: 3D Printing, Laser Cutting, Soldering, Shop Tools