Yash Bohra

(765) 746-9137 ybohra@purdue.edu linkedin.com/in/yashvb yashvbohra.com

Education

Purdue University - GPA: 3.8/4 (Purdue Climate Scholarship 2024) West Lafayette, Indiana
Master's of Science in Mechanical Engineering **Jan'24 - Present**
Activities: Semiconductor Student Association
Key Courses: Adv. Thermodynamics, Microprocessors in Electromechanical Systems, Mechatronics

University of Mumbai - GPA: 8.34/10 (Top **5%** of the class) Mumbai, India
Bachelor of Engineering in *Mechanical Engineering* **Jul'19 - Jun'23**
Key Courses: Product Design, Thermodynamics, Finite Element Analysis, Machine Design, Kinematics of machinery

Internship Experience

Research Fellow | Blue Integrated Partnership, US **Jun'24-Aug'24**
Automated System For Renewable Energy Resource Monitoring **[Poster]**

- Pioneered automatic renewable energy resource data collection by developing an automated system with drones and fixed stations gathering data on wind-solar energy, and carbon capture potential. Tested it for on-shore and off-shore applications
- Integrated 5 sensors on a single microcontroller and developed a custom IC on *Altium* to make the design more compact
- Designed an enclosure on *SolidWorks* and utilized Long Range Radio Communication (5 km range) for data transmission
- Programmed a *Python* script to update real time data on *ARCGIS* software increasing data accuracy on maps by 20%
- Presented at US Navy's Table Top Exercise III and was *awarded by Secretary Of The US Navy Ms. M. Berger*

Mechanical Engineering Intern | Polfrost Aircon, India **May'21-Aug'21**

- Created 2D models of cold rooms using *AutoCAD* and produced intricate 3D machine drawings using ***NX CAD***. Collaborated with the New Product Department to design cold rooms for Godrej, India (project valued at 4M$)
- Conducted thermal analysis using Ansys to optimize cooling efficiency and material selection for the cold rooms
- Collaborated with factory staff to create *BOMs* and optimize production workflows, ensuring efficient manufacturing

Mechanical Design Lead | Team Kaiser Racing (SAE BAJA) **[Blog]** **Jan'21-May'22**

- Led a team of 4 to fabricate a McPherson strut suspension for a 4-wheeled ATV, competing in the SAE BAJA India event
- Designed a roll cage in SolidWorks and created 2D drawings with GD&T for precise cutting, bending, and welding
- Performed FEA-based impact stress and failure analysis in Ansys, optimizing structural stiffness for crashworthiness

Mechanical Engineering Intern | FMAE India, India **Jul'20-Sep'20**

- Designed a robust tubular space frame chassis for an E-BAJA SAE vehicle using *CREO software*. 6% reduction in deformation under impact stress was observed through FEA simulations conducted on *Ansys Workbench R2*

Academic Projects

Design of a Microbot for Assisted Reproduction| Team Lead **[Blog]** **Aug'24-Dec'22**

- Designed a helical microbot in SolidWorks, actuated thermally and magnetically for precise sperm delivery in the uterus
- Conducted transient thermal simulations in Ansys, evaluating material performance for optimal thermal actuation

Compact High Strain Rate Material Testing Machine | Team Lead **[Publication]** **Jul'22-may'23**

- Integrated an array of sensors on a microcontroller linked to *NI-DAQ* and fabricated a custom test bench to test tensile strength of non-linear materials at high strain rates. Machine was 3 times smaller than a regular tensile testing rig
- Prototype was 10x cheaper than a conventional UTM and *achieved 97% accuracy* in testing materials- PLA and PETG

Automated hand sanitizer spray with compliance verification | Team Lead **[Publication]** **Jul'21-May'22**

- Prototyped (using *Solidworks*) an automatic hand sanitizer dispenser with compliance verification through facial recognition, leveraging *OpenCV ML library*. Project had the capability to reduce *hospital induced infections by 30%*

Leadership Roles

FCRIT Student Council | Organizing Committee Head **[Blog]** **Sep'21-Jun'22**

- Captained a team of 86 students to organize 150+ large-scale cultural and technical events, engaging over 6,000 participants

Rotaract Club of Panvel Midtown | Vice President **[Blog]** **Jul'21-May'23**

- Launched over *25+ large-scale community development initiatives*, including blood donation drives, health camps, and tree plantation drives, benefiting over 2,000 individuals. Accumulated *500+ hours* of social service in 2 years

Scholastic Achievements

- Was awarded the prestigious ***Purdue Climate Scholarship*** from a competitive pool of 700 global applicants
- Received the ***Best Rotaractor 2023*** award for organizing 10+ impactful community service events throughout the year

Technical Skills

Languages Assembly, Python, C, C++, MATLAB || **Softwares** NxCAD, Solidworks, Ansys Workbench, LabVIEW, Altium