

VEDANT GABHAWALA

Email: gabhawalavedant@gmail.com Phone Number: +1 (410) 469 0808

An aspiring design oriented, mechanical engineer seeking to deepen my knowledge in design processes and production.

EDUCATION

Stanford University, Stanford, USA

Expected May 2026

Master of Science in Mechanical Engineering (Depth in Fluid Mechanics | Breadth in Data Science) | 3.87 GPA

Johns Hopkins University, Baltimore, USA

May 2024

Bachelor of Science in Mechanical Engineering and Economics Minor | 3.92 GPA

Academic Awards: Dean's List (All Semesters), Tau Beta Pi Honor Society member, Departmental and General Honors

Design Awards: Dean's Design Choice Award for the Underwater Camera System Project

Relevant Coursework: Action Design Lab, Manufacturing, CAD, Engineering Design Optimization, Robot Sensors Actuators

TECHNICAL SKILLS

- **Software:** Engineering Design, Creo, Fusion 360, SolidWorks CAD, MATLAB, Python, Machine Learning, Autodesk Revit, C++, Microsoft Office, Power BI and Automate, Arduino UNO, ANSYS Mechanical, ANSYS Fluent, XFLR5, Tinker CAD
- **Engineering Specific:** Soldering, Mill, Lathe, 3-D Printing, Laser Cutting, Electrical Skills, Finite Element Analysis, GD&T

WORK EXPERIENCE

Stanford Solar Car Designer – Stanford University – California

March 2025 – Present

- Led development and optimization of split wheel shroud prototypes using CFD and FEA to improve aerodynamic efficiency
- Designed brake line housings and contributed to assembly, routing, and mechanical integration of the vehicle's braking system
- Overhauled and implemented brake and battery cooling duct designs, battery slicing for integration, and associated fan wiring

Mechanical Engineering Intern (CFD and FEA) – Drizzle Health – Maryland

June 2024 – August 2024

- Enhanced TB bacteria capture by 22% in millifluidic channels through innovative designs developed using ANSYS Fluent
- Optimized polymer grafting process, increasing grafting density by 12% through experimental testing and material analysis
- Increased the safety factor of the company's centrifugal tube design by 4x through FEA, stress analysis and material selection

Data Science and Sustainable Energy Intern – Walter P Moore – Washington DC

May 2023 – August 2023

- Transformed lifecycle data workflows using Excel, Revit, Python, Power Automate, Power BI and machine learning
- Built data visualization tools and dashboards to improve performance, and accuracy of EPD and mix designs by 40%
- Engineered and analyzed material strategies for mechanical systems, leveraging custom tools to cut CO₂ emissions by 15%

Sustainable Energy Course Designer – Johns Hopkins University – Maryland

May 2022 – August 2022

- Formulated a comprehensive four-week summer course on clean, renewable energy technologies for high school seniors
- Engineered and conducted multifaceted lab experiments, promoting hands-on learning with sustainable materials and methods
- Developed a solar-powered and wind-powered RC car, energy-usage ArcGIS map, and an ocean wave energy converter

Auto-Workshop Intern – Mercedes Benz – Mumbai, India

July 2019 – August 2019

- Observed and facilitated mechanics in checks and refurbishment of ATF fluids and MOE tires of 35 vehicles per week
- Executed repairs on the OEM EPC and BAS system, W221, W204 and W205 chassis, and 1.6 L M166 I4 engines
- Introduced changes to the order of repairs and MB Star Diagnostic tool to improve the workshop's efficiency

PROJECTS

Underwater Camera System Project

September 2023 - May 2024

- Partnered with the National Aquarium to design a 360° underwater camera system using CAD, Arduino UNO and Python

Distinction in Research Project

January 2025- March 2026

- Utilized experimental fluid mechanics to conduct research on glacier melting, enhancing insights into climate change effect

MATLAB Project

April 2021 – December 2022

- Analyzed the effect of a change in attack angle of the rear wing of an F-1 car on lap time around Monza

Stirling Engine Project

January 2022 - May 2022

- Designed and manufactured a Stirling engine using GD&T, CAD, advanced machining, and assembly processes

Heat Exchanger Project

August 2022 - December 2022

- Fabricated, tested, and evaluated the performance of a counterflow heat exchanger with a custom designed 3D printed baffle

EXTRACURRICULAR ACTIVITIES

- **JHU Baja Engineer** – Partnered in the development of the steering system of the off-road car for the JHU Baja Racing Team