ROHAN SHENDE

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EDUCATION

University of Pennsylvania; Philadelphia, PA **May 2024**
Master of Science in Mechanical Engineering, Specializing in Design and Manufacturing; GPA: 3.5
Coursework: Design of Mechatronic Systems, Design for Manufacturability, Materials and Manufacturing for Mechanical Design, Industrial Design, Machine Learning, Failure Analysis of Engineering Materials

K. J. Somaiya College of Engineering; Mumbai, India **June 2022**
Bachelor of Technology in Mechanical Engineering; GPA: 3.62 (8.78/10)
Coursework: Robotics & Artificial Intelligence, Mechatronics, Thermodynamics, Fluid Mechanics

SKILLS

Computer Aided Design SolidWorks (Professional Certification), Creo, Onshape, Catia, AutoCAD, Inspire
Finite Element Analysis Ansys, Hyperworks
Programming C++, MATLAB, Simulink, Pytorch
Fabrication 3D Printing, Laser cutting, DVP&R, GD&T, DFMEA, PFMEA, Machining

EXPERIENCE

Mechanical Engineering Intern – TA Instruments, Waters Corp. (*New Castle, DE*) **June 2023 – Dec. 2023**
- Collaborating with the Research & Development team on DSC-TGA Integration, Large Format DSC projects, involving **design of experiments**, fabrication, testing and troubleshooting.
- Performing thorough analysis of the results and deriving insightful conclusions.

Research Assistant – Rehabilitation Robotics Lab (*University of Pennsylvania, PA*) **Nov. 2022 – Dec. 2023**
- **Developing** and **testing** a soft toy for detecting and classifying infant interactions using optical force sensors to detect neurodevelopmental delays.

Research Assistant – AltruMed LLC (*Philadelphia, PA*) **Nov. 2022 – May 2023**
- Led engineering efforts for developing self-driven wearable medical antidote delivery devices.
- Conceptualized and designed compact **auto-injection mechanisms** using **SolidWorks**, executed fabrication through **3D printing**, and validated efficacy on artificial muscles.

Design Intern – Godrej and Boyce Mfg. Co. Ltd. (*Mumbai, India*) **June 2021 – July 2021**
- Developed a 3D model of a watertight hatch used in surface ships and submarines from 2D sketches using **Creo Parametric**. Modelled and assembled linking mechanisms to facilitate opening and closing of the hatch.
- Performed force and pressure calculations for **static structural analysis** and optimization of the design.

Steering Lead, Inventory Manager – Team RedShift Racing India (*Mumbai, India*) **Aug. 2021 – Aug. 2022**
- **Led the design and manufacturing** process of the steering system for an All Wheel Drive All Terrain Vehicle, resulting in an improved vehicle handling, leading to successful participation in national level competitions.
- Conducted factor of safety calculations based on vehicle dynamics and validated using **Ansys (FEA tool)**, resulting in a **weight reduction of 2.5 pounds** and selected suitable materials and manufacturing processes.
- Implemented efficient inventory management using the **5S technique** in the workshop.
- **Managed and trained a group of 25 juniors** as part of the core leadership team.

Suspension and Steering Engineer – Team RedShift Racing India (*Mumbai, India*) **Aug. 2019 – July 2021**
- Contacted and collaborated with raw material suppliers, OEM dealers and manufacturing workshops.
- **Outlined and pitched a Business Plan** that included market research, factory layout, production and maintenance, marketing strategies and financial analysis.

SELECT PROJECTS

Development of Smart Agricultural System using IOT: Designed and modelled a working prototype of an automated agricultural system by connecting sensors on a node MCU and programming them using Arduino.

Autonomous Robot Vehicle: Designed an autonomous robot, securing the runners-up position in the Grand Theft Autonomous 2022 at UPenn. Demonstrated expertise in mechanical design, electronics, and software architecture.