

SHREYASH SANDEEP PARAB

shreypar@umich.edu | (734) 680-3925 | 2169 Stone Rd, Ann Arbor, MI - 48105 | LinkedIn

Passionate about optimising, and validating systems, while ensuring product quality through cross-functional collaboration, data-driven decision-making, and process improvement for cost reduction.

EDUCATION

UNIVERSITY OF MICHIGAN

Master's in Industrial & Operations Engineering, 3.89/4 GPA

Ann Arbor, MI

Aug 2024 ~ Jan 2026

Courses: Manufacturing & Supply Operations, Advanced Business Data Analytics, Design of Experiments, Risk Analysis, Linear Programming.

UNIVERSITY OF MUMBAI

Bachelor of Mechanical Engineering, 9.53/10 CGPI

Mumbai, India

Nov 2021 ~ Aug 2024

Minors in Artificial Intelligence & Machine Learning

Leadership: Marathi Cultural Society: Public Relations Head, Team Kaiser Racing-SAEBAJA: Computation & Vehicle Dynamics Head.

MAHARASHTRA STATE BOARD OF TECHNICAL EDUCATION

Diploma in Automobile Engineering, 97.19 %

Mumbai, India

Aug 2018 ~ Aug 2021

Internship: BMW India – Infinity Cars Private Limited: Technical Team & Service Advisor

SKILLS

- **Programming:** Python, SQL, Unity - C#, R, MATLAB, CNC Machine Programming.
- **Software:** Tableau, Advanced MS Excel Analytics (Business Operations), Solidworks, Autodesk Inventor, Ansys, IPG Automotive, 3D printing.
- **Manufacturing:** Process engineering & Lean, Supply Chain Operations, Quality Control - NDT, Product Development, Project Management.

WORK EXPERIENCE

UNIVERSITY OF MICHIGAN - Warden Lab

Research Assistant

Ann Arbor, MI

Oct 2024

- Leveraging Augmented and Virtual Reality technologies to help humans improve task efficiency with Prof. A. C. Warden, UofM.
- Designed & performed Human Experiments to test hypotheses for the automation cues, by augmenting real-life situations with Unity.
- Measuring Automation Reliability, Bias & Trust, to ensure better Human-Automation Interaction in **the Safety-critical domains**.

MICHIGAN MEDICINE - Frankel Cardiovascular Center

Operations Engineering Consultant

Ann Arbor, MI

Aug 2024 ~ Dec 2024

- Optimized the system performance by automation using linear programming with MS Excel & Gurobi to develop an **Automated Tool for Staffing Optimization** to reduce understaffing or overstaffing risks while performing required **Risk Analysis**.
- Collaborated with cross-functional teams to understand and automate manual scheduling to **enhance capacity by 56%** and **reduce delays by 62%** while incorporating dynamic and real-time constraints thus ensuring optimal staff utilization of the system.

JAWAHARLAL NEHRU PORT AUTHORITY – Port Operations Terminal & Administration

Project Intern

Mumbai, India

June 2023 ~ July 2023

- Developed a **Tool to Optimize Storage location and Retrieval processes using K-means clustering** with Cargo data to streamline operations and define end-to-end material flow, to focus on logistics and supply chain efficiency at Main Stores, JNPA.
- Calculated the required size of the main stores based on historical data and EOQ policy, with our team's aim of the future expansion of **10 TEU** while avoiding the waste of nearly **INR 9,01,23,000** for new facilities to support the increasing demand.

BHABHA ATOMIC RESEARCH CENTRE - ITIS & DRHR

Research Intern

Mumbai, India

Dec 2022 ~ Jan 2023

- Modeled an **Automated Weld Defect Identification Tool using AIML**, achieving **83% accuracy** with radiography-based defect detection, **improving process efficiency by 27%** aimed to pioneer quality control for critical inspections to assist humans in high-risk tasks.
- Designed **Cartesian nuclear bot's frame and arms**, used in remote handling with **weight savings of 22%** with required structural integrity.

RESEARCH EXPERIENCE

Design & Development of Transient Heat Flux Sensor | University of Mumbai

July 2023 ~ June 2024

- Improved the sensor designed with SolidWorks, through transient analysis in Ansys and calibrated it for accurate temperature output.
- Recorded & processed signals in LabView & Origin to calculate Heat Flux by automating trapezoidal formula in MATLAB code.
- Tested sensor thoroughly at the Shock Tunnel Facility at IIT Bombay & validated with Heat Flux from Ansys Fluent simulation, proving its **3ms Response Time** and **99.35% Accuracy** suitable for measuring **Skin Friction** for **ISROs RLV-TD Nosecap**.

Development of an AI Tool for Diabetes Diagnosis & Prediction | University of Mumbai

July 2023 ~ Nov 2023

- Worked on a classification decision tree trained on ~**12000 healthcare datasets** using machine learning & **Data Analytics**, achieved **88% accuracy**, a **0.92 ROC-AUC score**, and **85% precision** with good distinguishing capability for Diabetic & Non-Diabetic cases.

PUBLICATIONS & CONFERENCES

Parab, S. S., Deshmukh, N., Ansari, A., Gaur, D., & Balan, G. **Design & Development of a Turbine for Waste Heat Recovery System**. In Proceedings of CTFC, 2023. Accepted in International Journal of Applied Engineering & Technology (London), 2023.

AWARDS

Best Project Poster, National Project Posters, 2024 | Best Research Paper, National CTFC 2023 | Third, Intrastate Technical Competition 2021