

SARAANSH SAXENA

1900 E Apache Blvd, Tempe, AZ 85281

☎ 480-765-4507 ✉ sarransh619@gmail.com [in linkedin.com/in/saraansh-saxena](https://www.linkedin.com/in/saraansh-saxena) [globe sarransh619.wix.com/portfolio](https://sarransh619.wix.com/portfolio)

EDUCATION

Arizona State University

Master of Science in Mechanical Engineering

Sep. 2018 – May 2021

Tempe, Arizona

SRM University

Bachelor of technology in Mechanical Engineering

Sep. 2014 – May 2018

Chennai, Tamil Nadu, India

WORK EXPERIENCE

Shutterfly Inc.

Equipment Technician 3

August 2020 – Present

Tempe, Arizona

- Implemented digital print maintenance program related to different types of repair on high capacity printing presses, to **reduce onsite repairs by 30% and increases the throughput of machines by 20%**.
- Developed SOPs for various high capacity rated machines, diversifying my knowledge and increasing the team efficiency of reducing on-site repair call time by **33%**.

Benteler Automotive India Pvt. Ltd.

Manufacturing Intern

June 2017 – July 2017

Pune, Maharashtra, India

- Investigated the issue for the crack propagation in B-pillar by performing the **root cause analysis(Ishikawa diagram, pareto chart, control chart)** to decrease the failure rate of the car structure (B-pillar) by **75%**.
- Analysed critical testing processes related to tensile strength, shear strength and hardness using **experimental and computational(FEA) tools** to remove the bottleneck and improve production efficiency from **88% to 97%**.
- Modified the drawings and 3D models of die design for the sheet metal molding and stamping process, by lowering die shoulder radius which reduce the failure rate by **75%**

TATA Motors Pvt. Ltd.

Mechanical design Intern

June 2016 – July 2016

Pune, Maharashtra, India

- Upgraded from classic to moving production line for the 4X4 front axle assembly using **2D drawings, 3D models and FEA analysis** to facilitate the variable purchase order throughout the year.
- Designed the parts keeping **design for manufacturability (DFM) and design for assembly (DFA)** in mind along with meeting **ISO 1101:1983** standards to increase the efficiency of production line by **8%**
- Fabricated modular attachment for existing jigs in assembly line, to increase the production throughput by **60%**.

RESEARCH EXPERIENCE

Arizona State University | *3D modeling, Prototyping, Coding, Manufacturing*

October 2018 – May 2020

- Worked under the guidance of **Nobel Laureate Prof. Frank Wilczek and Prof. Nathan Newman** to develop an anomaloscope classifying people into different color-blindness categories which provides categorization into 14 categories as compared to Ichihara test's 5 categories.
- Designed and manufactured a **novel Anomaloscope (Patent-pending)** from the ground up using, literature review, **3D modeling, prototyping** (3D printing, laser-cutting, custom PCB design), and arduino coding to produce an ergonomic and easy to use device.
- Researched, tracked, and documented the potential partnership with hospitals, ophthalmologists, and optometrists to maximizing the adoption and recognition of the device.
- Performed tests on more than **100 human subjects** to gather and analyze the data to categorize subjects into precious categories.

Universitat Politècnica de València (UPV) | *Artificial Neural Network*

February 2018 – July 2018

- Built a Artificial Neural Network model with **80%** accuracy which can predict engine performance under varying conditions.
- Analyzed and predicted the pollutant emissions of a DI diesel engine(experimentally) to reduce Carbon monoxide **by 20%**.
- Optimized the data lag and mass flow for the prediction model which increased the processing speed of the model by **2X**.

TECHNICAL SKILLS

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|--------------|---------------------|---------------|-----------------------|
| • Solidworks | • Abaqus | • ntopology | • Python |
| • Catia | • Siemens NXstudent | • Figma | • GD&T |
| • ProE | • PCB design | • Grasshopper | • DFM/DFA |
| • Creo | • 3D Printing | • MATLAB | • DFMEA/PFMEA |
| • Ansys | • Cura | • Mathematica | • Root cause analysis |