

# PRANAV LOKHANDE

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## OBJECTIVE:

Seeking full-time opportunities in the design and manufacturing field to apply one-year of R&D experience, FSAE participation and strong product design background using SolidWorks.

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## EDUCATION:

**Master of Science in Mechanical Engineering**  
Clemson University, South Carolina, United States

**May 2021**  
**GPA: 3.96 /4.0**

**Bachelor of Mechanical Engineering**  
K.J. Somaiya College of Engineering - Mumbai, India

**May 2017**  
**Grade: 8.07 /10**

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## RELEVANT EXPERIENCE:

### Design Intern, R&D

**June 2018 – June 2019**

### Design Engineer, R&D

Divide by Zero Technologies, Navi Mumbai

- Designed and developed Fused Filament Fabrication and laser-based 3d printers using SolidWorks.
- Optimized the design topology along with the selection of appropriate material to reduce the machining cost (by 15%) and weight (by 20%) while retaining strength.
- Followed tight deadlines by effectively initiating solutions through dedication and determination.
- Developed and assembled beta prototypes for one of India's first laser-based 3d printer from scratch.

### Project Design Engineer

**April 2018 – June 2018**

U-Farm, Mumbai

- Designed and developed the mechanical structure of an IoT powered vertical farming appliance.
- Made effective use of hands-on learning to gain experience using the 3-axis milling machine, laser printer, and 3d printer in creating custom parts for the pilot project.

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## TECHNICAL SKILLS:

Proficient: Additive Manufacturing, ANSYS, Design Thinking, MATLAB, Product Design, SolidWorks

Intermediate: AutoCAD, CATIA, CFD, Fusion 360, HyperWorks, Lean Six Sigma, Python, VisualDoc

Beginner: Autodesk Inventor, Internet of Things (IoT), Machine Learning, ModeFRONTIER

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## RELEVANT PROJECTS:

### MIT Covid-19 Challenge: Remote quality inspection system

**Aug 2020**

Winner – MIT Challenge: India Turning the Tide

- Coordinated with a multi-disciplinary international team consisting of senior quality engineers and strategic experts from medical industries, along with computer science, machine learning engineers.
- Demonstrated a strong ability to analyze problems by proposing an automated quality inspection process using 3D scanner and virtual reality, RF id tags, and Remote visual inspection.

### Design, Analysis, and Fabrication of Composite system of an FSAE car.

**Aug 2016 – May 2017**

K.J. Somaiya College of Engineering – Mumbai (Cost report winning team in FSG 2016)

- Designed, validated, and developed Bodywork and Aerodynamics package using SolidWorks and ANSYS Workbench.
- Performed CFD simulations to optimize and validate the Aerodynamic performance of the car.
- Led Aerodynamics and Bodyworks team providing an intellectual atmosphere conducive to the stimulation and interchange of ideas including design, manufacturing and assembly.
- Prepared cost and manufacturing report performing cost analysis and preparing strategies for mass production of the car, securing first and third place in FS Germany 2016 and 2017 respectively.

## **Structural & Thermal Analysis of an Automotive Body in White**

**Jan 2020 – Apr 2020**

AUE 8550: Structural/Thermal Analysis Methods for Automotive Structure – CU-ICAR

- Designed the automotive body structure which will meet the bending, torsion and crashworthiness and vibration with minimum possible weight along with spatial requirements as per given layout.
- Optimized the geometry of the frame and the dimensions of tubes to minimize weight while satisfying constraints like Body Side-Frame Bending Stiffness, Body Structural Torsional Stiffness, Crashworthiness, Passenger compartment integrity and Crash impact loads.

## **Lunar Regolith processing module**

**Aug 2019 – Dec 2019**

ME 8700: Advanced Design Methodologies – Clemson University

- Articulated technical requirements in simple terms to design a lunar regolith processing module for processing mined regolith to extract and store hydrogen, oxygen and He-3 for inter-terrestrial use.
- Brainstormed and evaluated the concepts using various tools like FMEA, Decision Matrix, Severity Ranking Criteria. Performed Verification and Validation test plan for subsystem level, Evaluation of the concept with respect to MOE and MOP with engineering analysis and Program budget proposal.

## **ONLINE SPECIALIZATIONS:**

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### **Modern Robotics: Mechanics, Planning, and Control Specialization**

**June 2020 – Present**

Northwestern University – Coursera

- Employing modern motion planning techniques like A\* algorithm on C-space grid from obstacles using randomized sampling-based planners using Python.
- Performing simulations on CoppeliaSim to visualize and improve the algorithm for generated grid.

### **Six Sigma Green Belt Specialization**

**May 2020 – June 2020**

Kennesaw State University – Coursera

- Gained knowledge of the tools in Define, Measure, Analyze, Improve and Control (DMAIC) structure of Lean Six Sigma.
- Developed project charters, data collection plan, process map, control plan, along with null and alternative hypotheses, problem statement, business case, goal statement, process and scope description, and timeline for capstone project of the specialization.

### **Design, analyze and optimize an Unmanned Aerial Vehicle (UAV)**

**June 2019 – Aug 2019**

Autodesk – Coursera

- Designed the 3D printable chassis of an unmanned aerial vehicle, selected the appropriate electronic components, and performed simulated tests and analysis to validate the design using Fusion 360.
- Performed Topology optimization to minimize the weight of chassis, validated the selected battery package for the required run-time and weight of the vehicle.