Pranav Lokhande

Portfolio: https://ppl26.github.io/ | Email: plokhan@g.clemson.edu |
Current Location: Clemson, SC (Open to relocate)

OBJECTIVE:

To obtain an engineering position in the design and manufacturing field to apply my R&D experience, FSAE participation and strong technical background working with multi-disciplinary teams.

EDUCATION:

Master of Science in Mechanical Engineering   **May 2021**
Clemson University, South Carolina, United States   **GPA: 3.96 /4.0**

Bachelor of Mechanical Engineering   **May 2017**
K.J. Somaiya College of Engineering - Mumbai, India   **Grade: 8.07 /10**

RELEVANT EXPERIENCE:

Mechanical Engineering Intern (R&D)   **March 2021 – Present**
Itron, West Union, SC
- Performed root cause analysis and recommended appropriate solutions for the detected causes.
- Reverse engineered and modelled the plastic injection molded components using Creo.
- Performed vibration, drop and water ingress tests for checking the durability of products.

Design Engineer (R&D)   **June 2018 – June 2019**
Divide by Zero Technologies, Navi Mumbai
- Designed and developed Fused Filament Fabrication and laser-based 3d printers using SolidWorks.
- Followed human centered approach to add user-friendly features while maintaining cost-effectivity.
- Implemented electro-mechanical systems and in-house rapid-prototyped components to reduce the cost (by 15%) and weight (by 20%) while retaining strength.
- Developed and assembled beta prototypes for one of India's first laser-based 3d printer from concept

TECHNICAL SKILLS:

Proficient: Additive Manufacturing, ANSYS, DFM, FEA, GD&T, MATLAB, Product Design, SolidWorks
Intermediate: AutoCAD, CATIA, CFD, Creo, Fusion 360, HyperWorks, Six Sigma, Python, VisualDoc
Beginner: Autodesk Inventor, Internet of Things (IoT), Machine Learning, ModeFRONTIER, Robotics

RELEVANT PROJECTS:

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 brainstorming 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.

MIT Covid-19 Challenge: Remote quality inspection system   **Aug 2020**
Winner – MIT Challenge: India Turning the Tide
- Collaborated with a cross-functional 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.

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:

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.