Sai Chandu Sunkara

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SUMMARY

Motivated Mechanical Engineering student with a strong background in both product design and manufacturing. Proficient in using CAD software and skilled in prototyping using various materials and techniques. Experienced in process optimization, lean manufacturing, and continuous improvement methodologies. Capable of designing, implementing, and managing projects from concept to completion. Also, with a keen interest in automation, robotics and machine learning. Refer LinkedIn and GitHub for more information.

EDUCATION

M.S. Mechanical Engineering| *Arizona State University*, USA (3.71) May 2023

B.Tech. Mechanical Engineering| *SASTRA Deemed University*, India (3.38) May 2020

TECHNICAL SKILLS

Design/Simulation Tools: AutoCAD, Fusion360, SOLIDWORKS, CREO, ANSYS, Revit, CATIA, Navisworks

Programming: Python (NumPy, Pandas, OpenCV, Flask, Keras, etc.), MATLAB, Arduino IDE, PLC, C, C++, HTML, CSS, JavaScript

Knowledge: SPC, Lean Manufacturing, Six Sigma, Sheet Metal Design, Injection Molding, DFMA, Welding, Product Management, Vehicle Dynamics, Design Optimization, Finite Element Analysis. CNC, Lathes, 3D printers, Casting, Forging, Machining, Stress Analysis, Production Planning, Scheduling, Supply Chain Modeling, DMAIC, DFMEA, GD&T, Robotics, Microcontroller Programming, Soldering, Basic Electrical and Electronics.

PROFESSIONAL EXPERIENCES

Technician Trainee| Royal Enfield, Andhra Pradesh, India May 2019 - June 2019

- Interned under the guidance of the Chief Technician at the Royal Enfield plant, where I focused on the maintenance and repair of engine, clutch, suspension, transmission, front forks, and wiring.
- During my internship, I analyzed and resolved over 50 technical issues, gaining valuable hands-on experience with a wide range of technical challenges.
- Consistently prioritized customer satisfaction by resolving technical issues within an average of 24 hours, resulting in a 95% satisfaction rate from clients.

Rotational Engineer| Shanmugha Precision forge (SPF), Tamil Nadu, India Jun 2018 - Apr 2019

- Demonstrated proficiency in operating and maintaining CNC, Lathes, Milling Machines, Radial drilling machines, Gear hobbing, Stamping, Casting, Drawing, and various other equipment.
- Acquired knowledge of process prediction, Lead time reduction, and process planning for products.
- Conducted quality control inspections on multiple products using tools such as CMMs, Profile Projector, micrometers, calipers, comparators to ensure conformance with industry standards and customer specifications.
- Achieved significant results such as an 18% reduction in scrap material rate, a 4% improvement in part yield, and a 15% acceleration in lead time to meet delivery schedule requirements.

CAD Technician| Freelancer, Andhra Pradesh, India May 2017 - Aug 2019

- Proficient in AutoCAD and BIM 360 for designing homes in multiple communities.
- Experienced in creating 3D models from physical engineering drawings and civil plans.
- Skilled in using Navisworks and Bluebeam to present as-is plans and incorporating client preferences.
- Assisted in structural aspects of houses and primarily focused on designing floor plans for over 30 completed projects.

RESEARCH EXPERIENCE

Research Assistant| Arizona State University, Tempe Apr 2021 – Dec 2022

- Developed an algorithm for extracting fitting parameters for 180 different stamped components with varying depths and material properties, allowing the machine learning algorithm to accurately predict results without requiring FEA.
- Created programs using screw coordinates to determine the least squares fit of lines and arcs in 3D space. Contributed to research publications and published a thesis on the topic.
- Wrote codes to find the minimum cylindrical fit and detect anomalies in large datasets using NumPy and pandas. Generated an Excel sheet with all the outputs.

ACADEMIC/SELF PROJECTS

- Designed and built a 2.5D Mechanical plotter using E-Waste and salvaged parts cutting cost to a low of $50.
- Designed and 3D printed custom parts and components for various projects, demonstrating proficiency in CAD software and the ability to troubleshoot and optimize prints for different materials and applications.
- Designed, 3D printed, and programmed a versatile LED matrix, capable of displaying various functionalities, such as real-time clock, classic games like Snake, Pong and a game of Tic Tac Toe, text displays, and music visualization.
- MATLAB simulation for decentralized drone swarm design for Precision Agriculture.
- Designed and built several First-Person View drones, ranging in size from 5 inches to tiny whoops.

CERTIFICATIONS

- **Python for Data Science, AI & Development**| IBM Mar 2023
  Skills: pandas, NumPy, Selenium, Data Science, Statistical Data Analysis, Python (Programming Language)
- **Introduction to Mechanical Engineering Design and Manufacturing with Fusion 360**| Autodesk Mar 2023
  Skills: Numerical control, Engineering Design, Autodesk Fusion 360, Manufacturing, BIM, CAD
- **Supervised Machine Learning: Regression and Classification**| DeepLearning.AI, Mar 2023
  Skills: Regression Models, Microsoft Excel, Machine Learning, Data Classification, Statistical Data Analysis, Python