Siddharth Narayanan

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EDUCATION

Texas A&M University, College Station, TX　　　　　　　　　　　Expected Spring'23
Master of Science Mechanical Engineering　　　　　　　　　　　　　　*GPA: 3.67/4*

Anna University　　　　　　　　　　　　　　　　　　　　　　　　　　May 2019
Bachelor of Engineering Mechanical Engineering　　　　　　　　　　　*GPA: 3.67/4*

WORK EXPERIENCE

Student Assistant　　　　　　　　　　　　　　　　　　　College Station, TX, USA
Texas A&M University　　　　　　　　　　　　　　　　　　January 2022 – Present
- Assisting Dr. Darrell Wallace as a Student Assistant for the course on Statics, in teaching 60 students.

Planning and Design Engineer　　　　　　　　　　　　　　　　　Chennai, India
Saint-Gobain India Private Limited　　　　　　　　　　　July 2019 - December 2020
- Planned the layout and machine setup of a new UPVC Windows Plant employing AutoCAD.
- Modelled trolleys and other material transport equipment using PTC Creo/Solidworks for the plant.
- Simulated and validated the design of the storage racks utilizing ANSYS Structures.
- Assisted in the installation and setup of machines on the shop floor.
- Devised the setup of a new warehouse and optimized the storage of SKUs, increasing the space utilization by 35%.
- Initiated and studied the outward movement of the SKUs and optimized the storage system by categorising into runners, repeaters and strangers reducing the lead time from order to dispatch by 30%.
- Managed a team of 7 people operating the warehouse dispatching $250000 worth of SKUs on a monthly basis.
- Collaborated with different machine and equipment suppliers from design to delivery.
- Managed and ensured on time of delivery of critical equipment for the fabrication part of our line.
- Assisted in taking trial runs leading to the commissioning of the plant.

Graduate Engineering Trainee　　　　　　　　　　　　　　　　Multiple locations
Saint-Gobain India Private Limited　　　　　　　　　　　July 2019 - December 2020
- Led a team of 5 which deployed a project which augmented the warehouse capacity from 20000 tonnes to 24000 tonnes.
- Learned about the manufacturing of various types of glass and its application in the industry.

SKILLS

Engineering
Solidworks | CREO | CATIA | ANSYS | AutoCAD | MATLAB | C | C++ | Python | SAP | Origin | MS Office
6S | Total Quality Management | Root-Cause Analysis | Kaizen | DFM | DFMEA | Control Charts | 6 Sigma |
GD&T | ROS | Statistical Quality Control

PROJECTS

RFID and Robotic Automation System for Tracking and Traceability　　December 2021 – Present
- Working under Dr. Swaroop Darbha and Dr. Sivakumar Rathinam planning the automation of an industrial process.
- Developing manipulation trajectories and control dynamics for a 6DOF arm.
- Implementing trajectories using ROS.

Modelling and Path Planning of a Dubins Vehicle September 2021 – December 2021
- Planned Dubins Path between two points given their nodes and headings.
- Computed the optimal path given a set of nodes using Lin-Kernighan algorithm.
- Demonstrated the optimality of the solution by comparing results for a set of test runs.

Control, trajectory planning of 3DOF pick and place robotic arm September 2021 - December 2021
- Developed forward and Inverse kinematics for a 3DOF robotic arm.
- Devised control techniques for regulation and trajectory tracking.
- Demonstrated robustness of adaptive control algorithm in MATLAB.

Friction Stir Welding of ZE41AMg alloy September 2018 - April 2020
- Studied the effect of rotational and transverse speeds on the welds.
- Investigated the Micro-hardness distribution across the welded samples.
- Compared the results obtained with those obtained from laser beam welding.

Reduction of Power Consumption of Bottom Casing Blower January 2019 - March 2019
- Enhanced the cooling efficiency of the bottom casing blowers (centrifugal blowers) by initiating the application of Computational Fluid simulations (CFD).
- Reduction of power consumption of 500kWhr a day was achieved.

Noise Reduction in Dolomite Dust Collector System June 2018 - July 2018
- Led a team that executed a project on the reduction of noise level in the exhaust of a dolomite dust collector system.
- Examined for the root cause of the problem using 5 Why Analysis.
- Investigated flow geometry and subsequently modified to achieve a reduction of 20dB.
- Awarded Best Standard Kaizen for this project.

All-Terrain Vehicle – Team Prometheans July 2016 - August 2017
- Involved in design, manufacturing of an off-road ATV that participated in ESI-2017 and SAE Baja -2017.
- Modelled the vehicle using Solidworks and validated the structural stability of the model using ANSYS.
- Designed the CVT of the vehicle as a part of the powertrain team.

PUBLICATIONS

Springer book volumes January 2021
Recent Advances in Manufacturing processes

Study of friction stir welding on aerospace grade ZE41AMg alloy and its comparison with laser beam welding on ZE41AMg alloy

ACTIVITIES

Higher Studies Club - Student Co-ordinator August 2017- January 2019
- Led and organized the setup of sessions and other events providing clarity on study opportunities available for students after their undergraduate program.

Indian Society for Heating Refrigeration and Air Conditioning July 2018 - May 2019
- Co-led the ISHRAE chapter during senior year, setting up events, quizzes, visits and sessions to cultivate interest in Refrigeration and Air Conditioning.