Suraj Thokal

M.Eng. Mechanical Engineering

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Highly motivated and results-oriented Mechanical Specialist with 3+ years of experience in R&D design. Proficient in utilizing advanced design software and applying engineering principles to achieve outstanding product outcomes. Adept at managing deadlines effectively and fostering successful cross-functional team collaborations. Seeking an opportunity as a Mechanical/Design Engineer/Designer or a similar role.

EDUCATION

Concordia University, Montreal, QC
Jan 2021- Jan 2023
Master's Degree (M.Eng.) in Mechanical Engineering
Major- Thermofluids Engineering

- Relevant Coursework: CAMD, Aerodynamics, Aircraft Hydro Mech Fuel Systems, Tribology, HVAC, etc.
- CAMD Project: Modeled, assembled, and simulated the "Helicopter Rotor System". (CATIA V5)
- Tribology Project: 3D modeling and analysis of a shark skin denticle-inspired coating for a maritime vessel to reduce drag. (PTC Creo and Ansys WB)
- Graduate Seminar: Designed and analyzed a whale fin-inspired turbine blade. (Solidworks, Ansys CFD)

Savitribai Phule Pune University, Pune, India
July 2013- Aug 2017
Bachelor's Degree in Mechanical Engineering

- Top student in a class of 400
- Bachelor's Project: Designed and fabricated fuel-efficient, compact, and durable multipurpose agricultural equipment for small field's farmers.
- Involved in the entire project lifecycle, including ideation, design (Catia V5), analysis, material selection, manufacturing, gathering feedback from farmers, and implementing continuous improvement (6 Sigma).

SOFTWARE PROFECIENCY

- CAD Software- CatiaV5, Solidworks, AutoCAD, Autodesk Inventor, Siemens NX, and PTC Creo.
- Simulation Software- Ansys FEA/CFD/CFX
- PLM/BOM Management- Windchill PLM, KBM ERP
- 3D Printing- Ultimate cura, Raise 3D
- Microsoft office suite, Teams, Sharepoint

SKILLS

- Sustainable Design for Manufacture (DFM) Electrical, Mechanical, and Automation Syatems
- DFM Processes- Die casting, Sheet Metal, Injection Molding, 3D Printing, CNC, Lean Manufacturing
- Innovative problem-solving for critical challenges.
- Project Management- Managing from concept to production, delivering on time and within budget
- Root Cause Analysis and Continuous Improvement
- Designing and Testing Standards- CSA, UL & ASME
- Effective communication & Team collaboration
- Language- English (Fluent), French (Beginner)

WORK EXPERIENCE

ABB Electrification, Montreal, QC, Canada
R&D Mechanical Designer (September 2022 - Present)
3D & 2D software- PTC Creo, AutoCAD, Raise 3D
PLM and BOM Management- KBM ERP, Creo Windchill PLM
Administration- MS office suite, Sharepoint, SAP

- Led a project team in the development of 10" pictograms specifically designed for Damp & Cold weather conditions.
- Proficient in creating and documenting sheet-metal and casting components for Electrification Systems, utilizing 3D models, 2D drawings, GD&T, and installation drawings.
- Experienced in designing Exit/Picto signs and battery units based on client input (DFM), and defining testing procedures wrt CSA/UL regulations.
- Collaborated closely with senior engineers to understand design requirements and delivered optimal solutions considering practicality, cost, and functionality.
- Generated comprehensive inspection reports (F24) to verify component fit, tolerance, and installation aspects, ensuring compliance with drawings, 3D's, and in-stock components.
- Demonstrated expertise in managing TSRs, Change Requests (CR), executing Engineering Change Notices (ECN), and maintaining revision levels using Creo Windchill PLM.
- Experienced in 3D printing (FDM) with a strong understanding of design optimization, file preparation, setup, post-processing, workflow management, and maintenance.

ABB Electrification, Montreal, QC, Canada
R&D Mechanical Intern (May 2022 - August 2022)

- Internship Project- Edgelite & Recessed Edglite Pictograms and Exit-signs for USA Brands (Emergilite, Lightarm) and Canadian Brands (Emergilite, Lumacell, Ready-lite).
- Analyzed over 1000 configurations, established 30 main assemblies, and 3D modeled using CREO 4.0, releasing them to Windchill PLM.
- Utilized KBM and GPLM to compare BOMs, identifying variations and shared components, and validated 3D model through physical assembly and testing in a pilot run.

Chameleon Innovations, Montreal, QC
Service Centre Technician (March 2021- April 2022)

- Assembled, installed, and inspected rolling tarp systems for 150 different truck trailers, as well as 100 retractable enclosures with air filtration and ventilation systems.
- Designed and fabricated jigs-fixtures for welding, drilling, cutting, and assembling that minimized accidents and reduced processing time by over 50% for CNESST.
- From drawings to finished trailers, we plan, schedule, map, inspect, and manufacture everything.

Space Concordia Robotics Division
Mechanical Team Member (January 2021- August 2022)

- Involvement in developing the Rover for the university rover competition, particularly in modifying the Rover wheel assembly's design (Solidwork).
- The main thing I managed to do with my idea is make the motor entirely protected and simple to take apart without removing the entire wheel assembly.

Cad Cam Guru, India, Mechanical Design Trainee (Oct 2019-Dec 2020)

- Created over 100 models for product tool design, Casting, sheet metal, and Jig fixtures to practice 3D modeling, drafting, and GD&T using several CAD softwares.

Kandekar Engineering, India, Intern (Oct 2018 - Mar 2019)

- Project- Engaged in the design and development of clay mixing machines for brick production. (PTC Creo 3.0)

Century Appliances, India Intern (Mar 2018 - Aug 2018)

- Project- Designed and prototyped an omnidirectional Caster Wheel for an air-cooler. (CATIA V5)