

SURAJ THOKAL

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OBJECTIVE

Mechanical Engineer/Designer with 4+ years of experience in product development. Proficient in CAD/simulation software and applying engineering principles to ensure effective outcomes. Proven ability to manage deadlines and lead technicality for the successful project delivery. Seeking full-time Mechanical Engineer/Design Engineer roles.

SKILLS

CAD Software	PTC Creo, Catia, Solidworks (CSWP), AutoCAD, Inventor, Siemens, Ansys FEA/CFD.
PLM/BOM/ERP	Creo Windchill PLM, Solidworks PDM, Enovia PLM, KBM ERP, SAP ERP.
DFM	Die Casting, Sheet Metal fabrication, Injection Molding, 3D Printing, CNC machining.
Other	Problem-solving, DFMEA, Continuous improvement (Kaizen), Product Management.
Administrative	Microsoft Office, Teams, Sharepoint, Effective communication, Team Work.
Languages	English (Fluent), French (Beginner).

EXPERIENCE

Mechanical Engineer, Research and Development

Nov 2024 - Current

ABB Electrification

Montreal, QC

- Led the design and development of the cold-weather Edge-Lite Pictogram, from concept to final release, reducing time-to-market by 20% through efficient prototyping and DFMEA reviews.
- Designed and optimized 50+ sheet-metal, machined, cast, and injection-molded components, reducing material costs by 15% using DFM principles.
- Defined test objectives, executed validation procedures, and generated compliance reports, achieving a 100% first-pass success rate in CSA/UL testing.
- Conducted 100+ component inspections (F24 reports), improving assembly efficiency by 25% through enhanced fit and tolerance analysis.
- Implemented cost-effective solutions in Continuous Improvement projects, achieving over CAD 100K in savings while ensuring compliance and maintaining performance standards.
- Managed 100+ engineering change notices (ECNs) and change requests (CRs), improving design iteration cycles by 30% through streamlined PLM documentation..
- Supervised 100+ 3D prints, optimizing and reducing design iterations by 35% for faster development.

Mechanical Designer, Research and Development

Sep 2022 - Oct 2024

ABB Electrification

Montreal, QC

- Assisted in design and development of 50+ emergency lightning products and/or lineups across sheet-metal, machining, casting, and injection molding.
- Assisted in prototyping and DFMEA analysis, reducing design validation time by 25%.
- Conducted 100+ inspections (F24 reports), achieving a first-pass approval rate in quality checks.
- Inter-departmental collaboration, to resolving design challenges and enhancing product reliability.
- Supported cost-saving initiatives, contributing to a 10% reduction in production costs.

Mechanical Intern, Research and Development

May 2022 - Aug 2022

ABB Electrification

Montreal, QC

- Internship Project- Creating 3D modeling, assembly, and analysis of Edge-lite Pictograms, Exit signs and customer special Wet Location Units for the leading USA and Canadian brands.

- Analyzed 1000+ configurations, established 30 main assemblies, and created 3D models and 2D drawings using Creo 4.0, releasing them to Windchill PLM.
- Utilized KBM and PLM to compare BOMs, identifying variations and shared components, and validated 3D model through physical assembly and testing in a pilot run.

Mechanical Technician, Service Centre

Mar 2021 - Apr 2022

Chameleon Innovations

Montreal, QC

- 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 percent for CNESST.
- From drawings to finished trailers, we plan, schedule, map, inspect, and manufacture everything.
- Installing headboard air deflectors for different generations of trailers considering aerodynamical aspects.

Mechanical Team Member

Jan 2021 - Aug 2022

Space Concordia Robotics Division

Montreal, QC

- Involvement in developing the Rover for the university rover competition, in particular contributing to modifying the Rover wheel assembly's design. (Solidwork) ([Click here](#))
- The motor entirely protected and simple to take apart without removing the entire wheel assembly.

Mechanical Design Trainee

Oct 2019 - Dec 2020

Cad Cam Guru

Pune, India

- Trained in mechanical software including ZW CAD+, AutoCAD, CATIA, PTC Creo, SolidWorks, and Ansys, with a focus on industry-specific domain expertise.
- Hands-on involvement in real-time projects, including 3D modeling, drafting, and GDandT for Automotive components, Die and cope, Compressor casing, Jig and fixtures, and plastic components.
- CAD projects- Swing Casting, 'Saniring- The ring Sanitizer' and 'Multifunctional School Bag'

EDUCATION

Master of Mechanical Engineering, Concordia University, Montreal, QC

2021 - 2023

Relevant Coursework: Industrial Design, Aerodynamics, Turbo-Propulsion, Aircraft Hydro-Mech Systems, HVAC.

- CAMD Project: Modeled, assembled, and simulated the "Helicopter Rotor System". (CATIA V5)
- Tribology Project: Designed shark skin-inspired coating to reduce drag on maritime vessels ([Click here](#)). (Ansys)
- Graduate Seminar: Designed and analyzed a whale fin-inspired turbine blade. (Solidworks, Ansys CFD)

Bachelor of Mechanical Engineering, SPPU, Pune University, India

2013 - 2017

Relevant Coursework: Mechanical System Design, Hydraulics-Pneumatics, Fluid Mechanics, Manufacturing processes, Mechatronics, Industrial Automation, Thermodynamics, FEA.

- Top student in a class of 400
- Bachelor's Project: Development of a Multipurpose Agricultural Equipment for small-field farmers, involving design, analysis, fabrication and Publication in IJSER, Vol8, Issue4, Apr2017, ISSN 2229-5518. ([Click here](#))

CERTIFICATIONS

Dassault Systèmes Certified SOLIDWORKS Professional (CSWP)- Mechanical Design, Issued May 20, 2024

ABB Creo Windchill PLM continuous Learning, Issued Aug 2023

Udemy 1. Mechanical design and product development process, Issued Jan 2024, 2. Design failure mode effect analysis, Issued Oct 2023, 3. 3D Printing fundamentals, Issued May 2023

FREELANCING/VOLUNTEERING

- Passionate about Nature-Inspired (Bio-mimicry) Innovations, willing to contribute.
- Student Furniture: Compact, portable, affordable modular desk for International Students. ([Click here](#))
- **Other** 1. Saniring- Ring Sanitizer, 2. Wind Kinetic Sculpture, 3. Omni-directional Caster Wheel ([Click here](#))

EXTRA CURRICULAR ACTIVITIES

Active in blogging about technology, spirituality, and inspiration on LinkedIn and/or website, alongside creating realistic nature paintings. ([Check it out](#))

LinkedIn Recommendations- ([Click here](#))