

THOMAS PADEESSERIL

Project Mechanical Engineer

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EXPERIENCE

Project Mechanical Engineer

Epac Electromechanical LLC

May 2014 – June 2015 Dubai, U.A.E

- Managed site progress and quality of MEP (mechanical, plumbing, electrical) operations for two locations, ensuring compliance to approved engineering drawings, installation schedules, and Dubai Building Construction Code.
- Prepared progress and non-conformance (NCR) reports, Gantt Charts, Bill of Materials, and site memos. Coordinated and streamlined sub-contractor activities to minimize delays.
- Reduced daily labour costs by 27 percent by decreasing number of required workmen on site.
- Revamped ordering procedures, reducing material pipe and fixture waste and stored on-site inventory.
- Finished installation of complete 1.2MM AED (Arab Emirates Dir-ham) plumbing system with HVAC drain ducts within budget and 10-month time frame.

Manufacturing Lead

SAE AeroDesign

June 2016 – March 2017 Montréal, Canada

- Led manufacturing sector team for Society of Automotive Engineers (SAE) AeroDesign competition, achieving 11th in worldwide competition in Micro Class.
- Designed and fabricated lightweight aircraft following SAE AeroDesign contest rules and consulting with aircraft industry design engineers for manufacturing perspectives.
- Reduced aircraft weight from 1.43 kg to 998 grams by utilizing carbon fibre tail boom, laser cutting the balsa wood for airframe, and using different types of glue for varied sections.

Teaching Assistant, Mini-Capstone Project

Concordia University

Jan 2018 – April 2018 Montréal, Canada

- Developed class materials and project requirements and taught undergraduate students auto transmission system design. Managed student project team.
- Designed and fabricated lightweight aircraft following SAE AeroDesign contest rules and consulting with aircraft industry design engineers for manufacturing perspectives.
- Focused on amphibious Honda CRV model; designed transmission systems to achieve 10 knots at maximum fuel efficiency.

Graduate Apprentice

Fertilizers and Chemicals Travancore Limited

Sept 2015 – Dec 2015 Cochin, India

- Worked with engineers on design and installation of high pressure lines per chemical transportation standards for highly toxic materials.

EDUCATION

M.Eng in Mechanical Engineering

Concordia University

May '16 – Apr '18 Montréal, Canada

- Coursework: CAD/CAM, Non-Destructive Testing, Project Management, Surface Engineering.

B.Eng in Mechanical Engineering

Anna University

May '10 – April '14 Chennai, India

PROJECTS

Chemical Vapor Deposition Process for Semiconductor Applications

- Researched Atomic Layer Deposition (ALD) and Plasma Enhanced Chemical Vapour Deposition (PECVD) methods for fabrication of semiconductor wafers, analyzing parameters affecting surface morphology and throughput rates.
- Studied micro-structure of Silicon Oxide thin layers. Analyzed the effects of chlorine addition on Si/SiO₂ interface.

Parametric Design of Marine Propeller Using CATIA V5

- Utilized equations for blade parametric design; calculated thrust of hydrodynamic body at 20 knots; conducted ANSYS modal and structural analyses. Parametric design made can be used for multiple horsepower and speed analyses.

Manufacturing and Quality Analysis of Fabric Sandwich Composite Using Hand Layup Method

- Fabricated composite laminate, determining core shear modulus, flexural stiffness of sandwich beam, and shear core strength.
- Utilized destructive testing for shear strength and prepared micro structure specimens for optical microscope study.

O-D Simulation of an Internal Combustion Engine using MATLAB

- Implemented Internal Combustion calculation in MATLAB; simulated convective heat transfer in diesel engine using Wiebe functions.

SKILLS

MS Office, MS Project

CATIA V5, SolidWorks, Python3

GD&T, CAD|CAM, Six Sigma

