

Subodh Babu Bhujel

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Education

Miami University

Master of Science in Mechanical Engineering; GPA: 3.96/4.0

Oxford, OH

Jan 2022-Present

Tribhuvan University, Institute of Engineering

Bachelor of Engineering (B.E.) in Mechanical Engineering

Dharan, Nepal

2014-2018

Professional Experience

Department of Mechanical and Manufacturing Engineering, Miami University

Oxford, OH

Graduate Student Researcher

Jan 2022-Present

- **Introduced a novel 9 DOF human upper extremity exoskeleton rehabilitation robot:** Developed a detailed **3D CAD model** and **prototype** of the robot.
- **Manufactured robot's components using CNC Milling Machine:** Produced CAM models from **SolidWorks**, generated toolpaths, and post-processed; and manufactured robot parts in the **HAAS CNC** milling machines.

Calgen Solutions LLC

Houston, Texas

Mechanical Design Engineer

Jan 2019-Dec 2021

- **ASME Code Knowledge:** Successfully led the design process of multiple precision-engineered pressure vessels according to the codes **ASME Section VIII Division 1** and **ASME Section VIII Division 2**.
- **Calculation/ Analysis:** Orchestrated calculation/ analysis using industry-leading software such as **PV Elite** and **COMPRESS**. Performed significant analyses like seismic, wind, lifting lug, and anchoring.
- **3D CAD modeling:** Developed **3D CAD models** of the pressure vessels along with their internal and external attachments using **Autodesk Inventor**.
- **2D Drafting/ Drawing:** Drafted **2D manufacturing drawings** applying the principles of GD&T using **Autodesk AutoCAD** and **Autodesk Inventor** as per the client's requirement. Reviewed fabrication drawings, assembly drawings, and P&IDs.
- **Bill of Materials:** Created detailed **Bills of Materials (BOM)** and sent to the clients for precise cost evaluation.
- **Aboveground Storage Tanks Analysis:** Pioneered the application of specialized **AMEtank** software for API Tank analyses covering roof design, bottom plate design, and shell thickness calculations, and produced accurate **calculation reports**.
- **Shell and Tube Heat Exchangers:** Executed design, rating, and analysis of **Shell and Tube Heat Exchangers** utilizing **HTRI Xchanger Suite** software and **PV Elite**.
- **FEA Analysis:** Performed static structural **FEA analysis** of complicated parts of pressure vessels like irregularly shaped nozzles, rectangular openings, and obround flanges utilizing **ANSYS Workbench**.

IME Motors Pvt. Ltd. (Ashok Leyland)

Kathmandu, Nepal

Service Engineer

Oct 2017-Jan 2019

- **Technical Expertise:** Provided first-level support, diagnosed issues, and implemented prompt solutions for vehicle repairs.
- **Team Leads:** Supervised technicians, fostering teamwork and enthusiasm, resulting in increased work efficiency.
- **Managerial aspect:** Managed billing processes, and updated customers on repair status, enhancing overall customer satisfaction.

Technical Skills

• Computer-Aided Design (CAD):	Autodesk Inventor, SolidWorks, CATIA V5, Autodesk AutoCAD
• Computer-Aided Manufacturing (CAM):	SolidWorks, Autodesk HSMWorks
• Finite Element Analysis (FEA):	ANSYS Workbench
• Boiler, Pressure Vessel, and Heat Exchanger:	PV Elite, COMPRESS, HTRI Xchanger Suite
• Tank Analysis:	AMEtank
• Programming and Simulation:	MATLAB, Simulink, LabView, Python, PyTorch
• Prototyping, Machining, and Fabrication:	Vertical Milling machine, CNC Milling machine, CNC Lathe Machine, Lathe, Abrasive Waterjet Machine, Welding, 3D printer
• Other:	Robot Operating System (ROS), Linux, MS Excel, MS Word

Honors and Awards

- Full tuition waiver for MS in Mechanical Engineering from Miami University.
- International Grant-in-Aid from Miami University.
- Summer Research Fellowship from Miami University Graduate School.
- MetLife Foundation Pathways Scholarship Program (during my Undergraduate studies).
- Full Tuition Waiver in High School for achieving top score in the School Leaving Certificate (SLC) exam.

Aug 2022- Present

Jan 2022-May 2022

July 2023

2015-2018

2012-2013

Certification

- Certificate for Registered Engineers-Nepal Engineering Council

2019