

Prabin Dhital, EIT, PMP

Peoria, IL 61615, US, (507) 491-3996, prabin.dhital@cat.com

EDUCATION

Minnesota State University, Mankato Master of Engineering, Mechanical Engineering	2016
Kathmandu University, Dhulikhel, Nepal, B.E. Mechanical Engineering	2012

RELEVANT SKILLS

- Experience transitioning prototypes into full production testing, troubleshooting, optimization and working as part of a cross functional team.
- Experienced in managing multiple projects while implementing company-wide process improvements in the engineering and manufacturing department.
- Expertise in engineering design, 3D modeling and assemblies, tooling and fixture design, 2D CAD drawings for manufacturing, developing product specification, selecting components, estimating cost, Instruction manual for manufacturing and parts manual for customer, test plan, and BOM management.
- Hands-on experience conducting Both FEA static structural analysis using Creo Simulation/ Lab Test using various test bench to optimize and validate the design changes.
- Strong understanding of 3D Design and 2D Engineering Production Drawing, Implementation of GD&T Y14.5-2009, Tolerance Stack up analysis, DFM and DFA.
- Ability to deliver technical presentation / develop proposal to cross-functional teams, customers, and suppliers/vendors.

PROFICIENCY IN SOFTWARE AND CODING TOOLS

CAD: Pro E/Creo Parametric (**Professional**), Solidworks and AutoCAD (**Academic**)
CMM: Keyence -XM Series (**Professional**)
PLM: Intralink/ Windchill (**Professional**), Teamcenter (**Professional**)
ERP: Infor Syteline, BaaN, Oracle, Epicor, SAP (**Professional**)
CAE: Pro Mechanical/ Creo Simulation (**Professional**), Ansys (**Academic**)
Vitrua Engineering Workbench: LabVIEW, Working Model(2D), Circuit Lab (**Academic**)
Data Analysis and Acquisition: Excel (**Professional**) Minitab (**Professional**), MATLAB (**Academic**)
Programming: VBA (**Professional**) C, PYTHON, MATLAB(**Academic**)
Project Management: MS Project (**Professional**)
Business Communication- Microsoft Team, Share Point (**Professional**)
Testing : MTS MPT 793(**Professional**)

WORK EXPERIENCE

Senior Design Engineer, Caterpillar Inc, Chillicothe, IL, USA	May 2024- Present
<ul style="list-style-type: none">• Designed and controlled new (NPI) and current (CPI) rubber components of Articulated Truck Suspensions, Hammer Buffers, TTT Bogies, E-Bar Pads, and AT Boot Seals.• Developed and implemented new test methods and procedures for rubber products, including performing tests, analyzing results for validation, and reporting findings to the cross-functional team, enhancing product quality and reliability.• Managed testing and audits of rubber products, ensuring compliance with industry standards and improving performance.• Collaborated with manufacturing facilities to optimize product and process performance, both remotely and onsite, and assigned tasks to lab technicians based on job priority.	

- Worked with overseas engineers in India to coordinate efforts, review part failure analysis, and ensure seamless integration of product development processes.
- Supported manufacturing facilities by ensuring product consistency in quality and performance, enhancing manufacturing resilience by adding additional sources for backup, and transferring parts to outsourcing when necessary.
- Manage the capital budget for purchasing new lab equipment and maintaining the lab.

Product Design Engineer, Emcor Enclosures, Rochester, MN, USA Oct 2018- May 2024

- Collaborate with OEM global design teams to optimize the design for high-volume manufacturing. Providing customer, the design solutions based on their specifications and recommending the use of standard products with modifications tailored to their requirements for their system integration.
- Work with customers and help them to define, develop, advise, and design enclosures, rack, frame, and consoles for electronic equipment in accordance with the application needs.
- Support Development and Implementation of design changes for existing products using defined ECR and ECN processes. Develop best practices and innovative solutions to improve the design engineering team processes and capabilities.
- Develop design solutions and manufacturing solutions based on in-house manufacturing process and capabilities.
- Managed current production design-based issues and accurately defined and delivered customer requests for production improvements and changes.
- Prepared the proposal, 3D model/ 2D drawings/sketches, proof-of-concept, performed the fit-up assembly with OEM product, and prepared technical presentations/application notes.
- Provide mentoring in 2D/3D CAD design and ERP to new hires and interns.

Design Engineer, Condux International, Mankato, MN, USA Aug 2016 – Sep 2018

- Conducted research and development on new products and procedures, and continuous improvement for equipment and tools for the installation of cables underground and overhead.
- Develop product from concept through full production within the context of Condux' five phase Project Management Process.
- Documented accurate and detailed specifications of projects. Designed 3D model and assemblies, 2D drawing for production and customer service, Create Manufacturing BOMs/Engineering BOMs/Customer Services BOMs.
- Designed and developed the requirements and specifications for basic electrical components and designs. Design mechanical models and layouts for electrical and hydraulic components.
- Managed engineering change requests (ECR) and engineering change notices (ECN) relating to product modification, product improvement, cost reduction, manufacturing ease. Responsible for creating 3D models, 2D production drawings, and Assembly instructions, maintaining BOM uploading the data into EPR system.
- Developed a test procedure and test report for product testing and validation. Performed product testing and validation before product production.
- Supported customer in field as needed.

Teaching Assistant, Minnesota State University, Mankato, MN, USA Aug 2014- July 2016

- Enabled students to design, test and trouble shoot on lab experiments.
- Setup the experiment and guide students through proper techniques as necessary, demonstrate the process and experiment.
- Guide student on LabVIEW Programming, data recording practices, and data acquisition system for experiments.
- Maintained the laboratory, updated the condition of all equipment used in experiments and developed alternative ideas in case of damage to any equipment during the experiment.
- Grades tests and papers.

Technical Supervisor, Auto City Pvt Ltd, Kathmandu, Nepal**April 2013 - Dec 2013**

- Responsible for managing a team of workforce including maintenance, sales, and accounting.
- Developed maintenance strategies, procedures, and methods and prepared for breakdown problems.
- Scheduled vehicles for preventive maintenance and inspection. Carried out a quality inspection on jobs, maintenance tools, inventory, and equipment.
- Work with users on buying, selling, and maintenance issues. Dealing with emergencies, unplanned problems, and repairs.
- Prepared monthly reports to the managing director of maintenance data, financial analysis, and proposed ways to advance quality and reliability of facilities to raise customer satisfaction.

Engineering Intern, Surya Nepal Pvt Ltd, Simara, Nepal**July 2012 - Oct 2012**

- Prepared daily schedules, managed production planning, and completed projects on infestation control, CRS filling value analysis, and humidity effects on tobacco moisture.

Industrial Trainee, Nepal Electricity Authority (MMHP), Lamjung, Nepal July 2011 - August 2011

- Oversaw daily operations, inspections, and maintenance of mechanical components; assisted technicians with turbine and generator repairs; updated the Mechanical Department Head on maintenance activities.

TRAINING AND CERTIFICATION

- **EIT- Minnesota Board of Engineering (Certification Number#163641)**
- **PMP-Project Management Professional (PMP Number#3400422)**
- Training on Additive Manufacturing, Software for AM cura and Makerbot desktop, Fused Filament Fabrication and SLA Technologies, Composite Filament Fabrication, Metal 3D Printing, Future of AM and applications, and design and selection of product and applications at Manufacturing Engineering Lab, Minnesota State university, Mankato. May- August 2017 **(64 hrs.)**
- Training in Statistical Process Control, Design of Experiments. Design of Tolerance Analysis, Fault Tree Analysis, FMEA, Regression Analysis, Root Cause Analysis, Project Management (MS Project), and Lean Manufacturing by Automotive Engineering Department at Minnesota State University, Mankato. Dec- May 2018**(64 hrs.)**
- SolidWorks Composer Training- Creating Cover/Detail Views, BOM, Marketing Images and Animation, Interactive Content, Walkthrough Animation, and publishing 3D Interactive by Alignex **(24 hrs)**
- PFMEA/FMEA Training **(24 HRS)**- Crenlo Engineered Cabs
- Certified Technician Keyence WM3500 (Wide Area CMM)-**12 HRS**

VOLUNTEER

- Industrial Advisor, RCTC College, Rochester, MN – 2021 to 2022
- Industrial Advisor, Senior Design Project, Minnesota State University, Mankato, MN, 2017-2018
- Advisor/Career Mentor/sponsor- High School in Nepal – 2010 to Present

PUBLICATIONS

Link to Google Scholar Profile: <https://scholar.google.com/citations/pdhitai>