

Dipak Bhattarai

STRUCTURAL DESIGNER - AutoCAD, 3D Modelling, Structural Design & Analysis

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📍 [Toronto](#)

in [LinkedIn](#)

SKILLS

- **Design & Analysis:** Structural Design, 2D Drawing, 3D Modelling, Blueprint Reading, Finite Element Analysis
- **Technical Tools:** AutoCAD, SolidWorks, FEMAP, Nastran, Tekla Structures, Revit, CNC Machining
- **Project Management:** Project Handling, Budget Estimation, Risk Assessment, Resource Allocation
- **Structural Engineering:** Load Calculation, Stress Analysis, Strength Calculation, Field Inspection, Design
- **Manufacturing & Fabrication:** Machine Operation, Prototype, Material Estimation, Sheet Fabrication

WORK EXPERIENCE

Machine Operator

June 2024 – Present

PTH Staffing, Sinalite Printing

Toronto

- Adjusted and fine-tuned plate-making machinery, including calibration of rollers, tension settings, and pressure sensors, increasing production efficiency by 20% while ensuring precise alignment and consistent output quality.
- Diagnosed and resolved mechanical faults using diagnostic tools, root cause analysis, and predictive maintenance techniques, reducing downtime by 35% and enhancing throughput consistency in high-speed productions.
- Streamlined production processes by enhancing print calibration accuracy, optimizing ink density, and standardizing substrate alignment, leading to a 15% reduction in material waste, minimized overprinting errors.

Structural Designer

March 2023 – January 2024

Japan Steel Tower Co. Ltd.

Japan

- Engineered and validated high-voltage transmission towers by conducting structural load simulations and stress strain analyses, improving structural integrity by 25% through load distribution analysis and material utilization.
- Led a 5-member team in 2D drafting, finite element simulations, and parametric modeling using AutoCAD and FEMAP, accelerating project delivery timelines by 30% while ensuring compliance with engineering standards.
- Conducted comprehensive structural inspections, utilizing testing techniques and fatigue failure analysis to identify and mitigate fatigue-related risks, extending asset lifespan by 15 years and enhancing operational reliability.

Dispatch Structural Designer

March 2020 – March 2023

IMAC Engineering Co., Ltd.

Japan

- Led the comprehensive design validation of steel frameworks for transmission towers, achieving 100% compliance with industry standards, seismic load regulations, and structural integrity, ensuring safety protocols.
- Implemented advanced finite element analysis refinements for stress distribution, reducing material overuse by 12%, optimizing resource allocation, and cutting project expenses without compromising structural safety.
- Mentored junior engineers in advanced structural engineering principles, enhancing proficiency in connection design, load path optimization, and failure mode analysis by 40% through targeted technical training programs.

Field Engineer

August 2019 – January 2020

Aviyaan Engineering Pvt. Ltd.

Nepal

- Supervised pre-engineered building installations, ensuring 100% adherence to safety protocols, reducing structural rework by 30%, and improving compliance with construction adherence and engineering standards.
- Directed equipment commissioning processes, enhancing machinery uptime by 25%, minimizing mechanical breakdowns, and improving operational workflow through preventive maintenance and system diagnostics.
- Developed comprehensive material procurement plans, and strategies, lowering supply chain costs by 15% through strategic vendor negotiations, inventory optimization, and efficient allocation of resources across projects.

PROJECTS

Robots for ABU Robocon Competition

Role: Designer, Fabricator, Assembler

- Led a team of 5 engineers in the design and fabrication of robotic components using SolidWorks, achieving a 30% improvement in mechanical efficiency and securing the Best Engineering Award at ABU ROBOCON.
- Coordinated and assessed cross-functional collaboration between mechanical, electrical, and software teams, reducing assembly time by 25% and enhancing robot responsiveness by 40% through optimized sensor integration.

EDUCATION

Bachelor's Degree in Mechanical Engineering

Central Campus, IOE, Tribhuvan University

September 2014 – September 2018

Nepal

CERTIFICATIONS & AWARDS

- **The Best Idea Award and The Mabuchi Motor Award in ABU ROBOCON, Indonesia.**
- **The Best Engineering Award and The Panasonic Award in ABU ROBOCON, Thailand.**
- **SHL Certifications: AutoCAD, SolidWorks, Blueprint Reading, Machine & Tool Design**
- **WHMIS Certificate & Worker Health and Safety Awareness Certificate**
- **Registered Mechanical Engineer, Nepal Engineering Council**