Ravi Mishra

Mechanical Engineer

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Professional Summary

Ph.D. Mechanical Engineering student with 2.5+ years of experience in automotive systems, mechatronics, robotics, and quality improvement. Skilled in CAD modeling, FEA, and process optimization, with a proven record of improving efficiency and reducing downtime through preventive maintenance strategies. Certified Six Sigma Green Belt and CSWA, with expertise in tools such as AutoForm, SolidWorks, Ansys, and MATLAB/Simulink. Adept at leading engineering projects from concept to execution, optimizing manufacturing processes, and delivering innovative, data-driven solutions in fast-paced environments. Passionate about leveraging advanced engineering principles to solve real-world problems and drive impactful technological advancements.

Education

Aug 2025 **Ph.D. — Mechanical Engineering**, *South Dakota School of Mines & Technology*, SD, USA

Aug 2023 – May 2025 **M.S. — Mechanical Engineering**, *University of New Haven*, West Haven, CT, USA, GPA: 3.75/4.00

Relevant coursework: Mechatronics, Robotics, Engineering Analysis, Additive Manufacturing, CFD & Heat Transfer, FEM, CAE, Optimization, Composite Materials

Jul 2017 – Jul 2021 **B.Tech — Mechanical (Automobile) Engineering**, *KIIT University*, Bhubaneswar, India, GPA: 9.07/10

Relevant coursework: Mechanical System Design, Strength of Materials, Advance Manufacturing Processes, Heat Transfer, Kinematic and Kinetics of Machine, Thermodynamics, CAD/CAM Automation, Hydraulics and Pneumatics, Engineering Metallurgy, Electricals and Electronics, Industrial Engineering, Electric vehicles, Vehicle dynamics.

Vice-Chancellor's Silver Medal — Academic excellence award

Technical Skills

Design– SpinFire, AutoCAD, Fusion 360, Autodesk Inventor, SolidWorks, Ansys Workbench/Mechanical/ACP, Catia V5, AutoForm, Ultimaker Cura

Programming– C, C++, Python, MATLAB, LabVIEW, Arduino, PLC programming

Additional– GD&T, Lean Six Sigma (Green Belt), Quality Control, FMEA, PFMEA, Root Cause Analysis, Process Improvement, APQP/PPAP, IQ/OQ/PQ, URS/FRS, MS Office, Excel, Engineering Documentation

Work Experience

May 2024 – Aug 2024 **Process Engineer - Intern**, *Thai Summit America Corporation*, Howell, MI, USA

- Assisted in managing cost, quality, and delivery; supported 5+ new business inquiries through quoting, process development, timing analysis, capacity planning and BOM creation.
- Conducted 10+ AutoForm simulations (formability, springback, trimming) to ensure robust process designs for blanking, drawing, trimming and piercing operations.
- Contributed to engineering 4+ die types and co-developed a universal die tryout request form, reducing human error by 98%.
- Participated in die tryouts, launches, and continuous improvements following APQP/PPAP standards; helped reduce downtime by 15%.

Feb 2024 – May 2024 **Teaching Assistant**, *University of New Haven*, West Haven, CT, USA
- Created, supervised, and graded assignments for a class of 20 students; implemented individualized feedback improving average grades by two levels.

Dec 2021 – Aug 2023 **Service and ADAS Calibration Engineer**, *Jagdamba Motors Pvt. Ltd.*, Kathmandu, Nepal
- Resolved 90% of ADAS calibration issues (FRS, ACC, AEB) on first attempt; managed 100+ warranty claims with root-cause analyses.
- Improved issue resolution time by 30% and increased customer satisfaction by 15% through process enhancements and training.

Apr 2021 – Dec 2021 **Mechanical Engineer**, *Mahavir Shree International Pvt. Ltd.*, Kathmandu, Nepal
- Led after-sales service and maintenance for Rosenbauer firefighting vehicles and SARSYS-ASFT equipment across 15 airports; improved uptime to 95%.
- Managed supply, installation and maintenance of baggage handling systems, X-ray machines and high-pressure compressors; improved project timelines by 20%.

Academic Projects

Jan 2024 – May 2024 **PID-Controlled Master-Slave Robotic Arms for Precision Teleoperation** – Developed a master-slave robotic arm system with 95% positional accuracy using PID control; integrated servo motors and potentiometer-based sensors to synchronize motion for 5 lb payloads.

Aug 2023 – Dec 2023 **Hierarchical Lattice Structure Design** – Designed lattice structures optimized for uniaxial compression; achieved 35% weight reduction and produced parts via SLA 3D printing.

Aug 2017 – Aug 2020 **Formula Student EV and E-Baja Vehicle (Skyline Racing)** – Led design, simulation and fabrication; reduced chassis weight by 15% using AISI 4130 and achieved top finishes including 1st place in Formula Green 2019.

Certifications

- Certified Six Sigma Green Belt — IISE
- SOLIDWORKS CAD Design Associate (CSWA) — Dassault Systèmes- Solidworks
- Specialization on Autodesk CAD/CAM/CAE for Mechanical Engineering — AUTODESK — Coursera
- Digital Manufacturing and Design — The State University of New York — Coursera
- Digital Thread: Implementation — The State University of New York — Coursera
- 3D Printing Application — University of Illinois — Coursera
- Materials Science: 10 Things Every Engineer Should Know — UC Davis — Coursera
- AutoForm - Process Engineering — AutoForm Engineering
- Introduction to Self-Driving Car — University of Toronto — Coursera
- Specialization on Autodesk Generative Design for Manufacturing using Autodesk Fusion 360 — Coursera
- Digital Thread: Components — The State University of New York — Coursera
- Innovation through Design: Think, Make, Break, Repeat — The University of Sydney — Coursera
- Solar Energy Basics — The State University of New York — Coursera
- MathWorks Training Services in MATLAB Onramp and SIMULINK Onramp — MATLAB