

**Sanjay Dangi, Mechanical Engineer**  
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EDUCATION	<p><b>M.S.</b>, Mechanical Engineering (GPA: 3.91/4) <b>(2023 - 2025)</b> Northern Illinois University</p> <p><b>B.E.</b>, Mechanical Engineering (74/100): Tribhuvan University, Institute of Engineering, Pulchowk Campus, Nepal <b>(2014 - 2018)</b></p>
TECHNICAL SKILLS	<p><b>CAD/CAM:</b> SolidWorks, Fusion360, AutoCAD, CNC Coding, GD&amp;T</p> <p><b>FEA:</b> ANSYS, COMSOL, SolidWorks Simulation</p> <p><b>Manufacturing:</b> 3D Printing, Lathe, Welding, Milling, Basic PLC, SCADA</p>
PROJECTS	<p><b>M.S. Thesis</b>, PIV Characterization of a Large-Scale EHD Vortex Confinement Flow in Wire-to-Plate Electrostatic Precipitator for Particle Agglomeration</p> <p><b>B.E. Thesis</b>, Design and Fabrication of Manually Operated Engine Powered Rice Reaper Using SolidWorks as Design and Ansys as Analysis Software with Different Machining Process</p>
PROFESSIONAL EXPERIENCES	<p><b>Research Assistant at Northern Illinois University (2023 - Present)</b></p> <ul style="list-style-type: none"><li>• 3D-CAD Design of Efficient Indoor Air Cleaner ESP Based on Vortex Confinement Flow and Visualization by 2D-PIV Technology</li><li>• Fabrication of the Designed Setup</li><li>• High DC Voltage (-25 to - 40 kV) Application</li><li>• Flow Field Analysis of Vortex Flow and Data Analysis in MATLAB</li></ul> <p><b>Mechanical Engineer/ Plant In-Charge (2019 - 2021)</b> Khilung Kalika Biogas Power Plant, Nepal</p> <ul style="list-style-type: none"><li>• Maintenance of Anaerobic Digester and Decantation Unit</li><li>• Basic Programming and Maintenance of PLC (ABB) and SCADA</li><li>• Bio-Gas (1 MW) and Diesel Generators (700 kW), Bio-gas Powered Boiler Unit Handling</li><li>• Granular and Liquid Organic Fertilizer Production Plant Supervision</li><li>• Factory Line Maintenance, Inspection and Inventory Management</li><li>• Technicians Team leading and Labor Management</li><li>• Waste Water Treatment Plant Installment and Operation</li><li>• Collaborated with local government agencies to distribute bio-fertilizer, leading to a marked increase in product demand and production</li></ul>

**Rockford Environmental Science Academy (RESA), Science and Technology Project Instructor (2024 - 2025)**

- Taught Students the Fundamentals of 3D Printing and Tinker-cad
- Developed and Delivered Hands-on Workshop to Enhance Students' Practical Skills in Design and 3D Printing
- Guided Students Through the Design and Creation of 3D Models
- Designed Tinker-cad Tutorial and Organized 3D Design Challenges

**INTERNSHIP  
EXPERIENCES**

**TOYOTA, Kathmandu, Nepal (Sept 2017- Dec 2017 )**

- General Servicing and Maintenance of IC Engine
- EVs and Batteries Fault Inspection
- LEAN Concept Basics

**Chaudhary Groups, Kathmandu, Nepal (Jan 2018 - Apr 2018)**

- Plant Layout Re-Design
- Maintenance of Noodle and Cheeseball Production Plants, Boilers and Diesel Generators

**PODIUM  
PRESENTATIONS**

**Dangi et al.,**(2018) “Design and Fabrication of Engine Powered Manually Operated Rice Reaper.” RECAST, Tribhuvan University (TU).

**Dangi et al.,**(2024) “PIV Characterization of a Large-Scale EHD Vortex Confinement Flow in Wire-to-Plate Electrostatic Precipitator for Particle Agglomeration”, The American Association for Aerosol Research (AAAR).