

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

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).