

NAWARAJ THAPA MAGAR

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EDUCATION

B.E. Mechanical Engineering (Energy Technology),
GPA: 3.01, Kathmandu University, Nepal. May 2023
Thesis Title: Optimizing mixing performance of self-agitating household biodigesters with CFD approach.

RELEVANT UNDERGRADUATE COURSEWORK:

Engineering Thermodynamics	Fluid Mechanics	Differential Equations & Complex Variables
Renewable Energy	Numerical Methods	Statistics and Probability

ACADEMIC EXPERIENCE

[RSEL, Kathmandu University](#)

Jan 2024 – June 2024 | Dhulikhel, Kavre, Nepal

Worked as a **Research Assistant** under the project *Energizing Higher Education – Renewable Energy for Economic Transition (e-REET)*, funded by German Academic Exchange Program (DAAD), Germany.

[RSEL, Kathmandu University](#)

May 2023 – Dec 2023 | Dhulikhel, Kavre, Nepal

Worked as a **Research Assistant** under the project *Promoting Himalayan Development by Strengthening Teaching and Research on Sustainable Development Goals (ForHimSDG)* funded by the Federal Ministry for Economic Cooperation and Development, German Academic Exchange Service (DAAD).

[RSEL, Kathmandu University](#)

Jan 2023 – April 2024 | Dhulikhel, Kavre, Nepal

Worked as a **Research Intern** under the project *Demonstrating applicability of modified prefabricated household floating drum biodigester (ENEP-RENP-II-22-04)* funded by EnergizeNepal Project (NORAD).

[SEDS-KU, Kathmandu University](#)

Aug 2020 – May 2021 | Dhulikhel, Kavre, Nepal

Worked as **Event Manager** and was responsible for managing Space Talks and overall events. Led team as a team leader in the research category of every project under SEDS-KU.

PUBLICATIONS

Journal articles

Under preparation | RSEL

Journal paper on “Diffusion of Pre-fabricated Household Biogas Technology: A Technical and Socio-economic Evaluation”

Under preparation / RSEL

Journal paper on “Optimizing mixing performance of household bio-digesters with CFD approach.”

ACADEMIC PROJECTS AT KATHMANDU UNIVERSITY

Eulerian-Eulerian Modelling approach for performance optimization of household biodigesters

December 2022 – May 2023 / [Associate Prof. Sunil Prasad Lohani](#)

Bachelor Thesis on Optimizing mixing of Anaerobic Digesters with CFD approach. Quantifying the ways to optimize the different household type self-mixing bio-digesters. Currently working on a journal paper.

Design of Stand-Alone Solar and Turbine Hybrid Model

November 2020 – March 2022 / [Assistant Prof. Malesh Shah](#)

Designed a solar and turbine hybrid model to help minimize the electric load demand in the country integrating Solar power plants with a Pumped Hydro Storage system.

Socio-Economic Assessment: An overview of the current scenario of household cooking energy in Nepal

Sept 2019 - Oct 2020 / [Associate Prof. Sunil Prasad Lohani](#)

Analysis of Qualitative questionnaire survey based on current cooking energy technology used by households from Kavre, Ilam, Gulmi, and Kathmandu. The study reflects the socio-economic perspective of energy use.

Feasibility Study of Solar PV Drinking Water Pumping System

April 2021 - August 2021 / [Associate Prof. Sunil Prasad Lohani](#)

A case study was conducted at Saraswatitar Village, Banepa Municipality, Kavre to check the feasibility study of a Solar PV Drinking Water Pumping System. The study helped villagers get drinking water at their homes with support from the local government budget.

INTERNATIONAL PROJECTS

Rover Design for Excavation and Disposal in Moon

October 2020 - March 2021 / [SEDS-KU](#)

Designed a conceptual rover for excavation and disposal on the Moon as part of the International Singapore Space Challenge 2021 organized by Singapore Space and Technology Limited, Singapore.

INDUSTRIAL EXPERIENCE

[Raeeela Production](#)

Sept 2021 – Oct 2021 / New Baneshwor, Kathmandu, Nepal

- Worked as a **3D Animator and VFX Artist** for a project by HIT Nepal. Developed a commercial ad for the promotion of their product Lal Hit. [click here to see the ad](#)
- Developed cooking oil promotional commercial ad for the Shiv Shakti Group.

[Jasper IT Pvt Ltd.](#)

Dec 2017 – Feb 2018 / Kathmandu, Nepal

Worked as a **Telemarketer** and was responsible for event management and sales of websites.

GRANTS/AWARDS

75% Merit-based scholarship in 10+2 science stream for 2 years

Columbus HSS and College, New Baneshwor, Kathmandu, Nepal

TECHNICAL PROFICIENCY

Lab Skills	CAD and IDE	Programming Language	Version Control
Lathe Machining, Milling Machining, Welding.	SolidWorks, MATLAB, PVsyst, CFTurbo, ANSYS, OpenFOAM, TRNSYS, HOMER Pro, MS Office, ArcGIS, Salome, Blender, LIGGGHTS, Paraview	C, C++, Python, Html, CSS, R	Git

LANGUAGE PROFICIENCY

MOTHER TONGUE(S): Nepali Language

OTHER LANGUAGE(S):

ENGLISH

Listening	Reading	Spoken Production	Spoken Interaction	Writing
C2	C1	C1	C1	C2

LICENSES AND CERTIFICATES

Registered Mechanical Engineer

Nepal Engineering Council