Aashish Dumre

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PROFILE

I am an enthusiastic mechanical engineer who has a keen interest in energy and manufacturing design for solving pragmatic problems using advanced engineering knowledge.
Registered Engineer of Nepal Engineering Council (6767 Mechanical 'A' Category)

EDUCATION

Bachelor's of Engineering, Mechanical Engineering(80.83%, Distinction), 2017 – 2022
Institute of Engineering Thapathali Campus, Tribhuvan University Kathmandu, Nepal
Electric Machines, Fluid machines and mechanics, Finite Element Analysis, Operational research and Management, Mechanical design and simulation, and Energy resources.

PROFESSIONAL EXPERIENCE

Teaching Assistant, *Thapathali Campus, Tribhuvan University* Apr 2023 – present
Department of Automobile and Mechanical Engineering Kathmandu, Nepal

Research Assistant (RA), *Energy Systems Research Laboratory (ESRL), Thapathali Campus* Apr 2022 – present
Kathmandu, Nepal
- Working as a Research Assistant for EV Charging Station Modeling and its implementation.
- Energy Modeling, Optimization, and Computation using CPLEX studio, Python.
- Documentation, Presentations, and Excel report.

System Design and Maintenance Intern Engineer, *Suryodaya Urja Pvt.Ltd* Aug 2021 – Nov 2021
Kathmandu, Nepal
- Load Calculation, design, and Installation of solar panels for domestic and commercial purposes, maintenance, and proper handling of inventories.

PROJECTS

Locating the optimal locations for charging station: A case study of Kathmandu valley Jun 2021 – May 2022
Energy modeling, Optimization via Python and result plotted using GIS in map.

Study of the Nepal Stock Exchange Limited Jul 2021
Mathematical modeling, Optimization , Time series forecasting, Monte-Carlo Simulation

Solar PV array design May 2021 – Jul 2021
- Total energy consumption, Solar PV panel design and power calculation
- Designed a solar water pump for irrigation(Water demand 1500000 Liter/day)

A case study on Solid waste management of Kathmandu Valley 2021
Daily volume(1200metric tonnes), dumping site capacity, organic waste and biomass to energy conversion using energy bin

Biogas plant design 2021
A medium-scale plant was designed to replace LPG from the mess of the Thapathali Campus (Serves 1500 students/day)

AWARDS

Batch Topper (2017-2022), *IOE Thapathali Campus* 2022
Bachelor's in Mechanical Engineering

First position in Glider Plane Compitition, *SOMES, IOE Pulchowk Campus* Feb 2020

MAHATMA GANDHI SCHOLARSHIP SCHEME 2015-2016, *Government of India* 2015
For class XI and XII

Academic Excellence Award, *Thapathali Campus*
Financial assistance of Rs.1406 (8/8 semester) in engineering

PUBLICATIONS

Conference Proceedings Jun 2022
Title: "Locating the optimal EV charging stations for public vehicles: A case study of Kathmandu Valley," Engineering, Sustainable Development, and Artificial Information.2022 Kathmandu, Nepal
Accepted at the 9th National Conference on Science and Technology at Nepal Academy of Science and Technology (NAST)

Unpublished Manuscripts
- Under review

Title: Locating the Optimal EV Charging Stations for Public Vehicles

EXTRACURRICULAR ACTIVITIES

Volunteered 12th IOE graduate Conference

UNDESIGNED WORDS- A poem concert
Organizing Committee

Freshers Quiz Contest 2075 and Inter College Debate Competition
Sub-coordinator

COURSES AND TRAINING

Crash Course on Python, *Google-Coursera* 2022

ANSYS, Solid works 2021

Solar Energy Basics, Electric Power Systems and Digital Manufacturing and Design, *Coursera* 2020
Authorized by The State University of New York and University of Buffalo

Robotics Week 2.0 2018
Fabrication of various mechanical components,

Workshop on Business Development from Renewable Energy: Economic Perspective, *Green Hydrogen Lab, Kathmandu University* 2022

Climate and Energy, *Quasar's School* Mar 2023

SKILLS

AutoCAD, Solid works(2D and 3D modeling), GIS, MATLAB, Maple, ANSYS

Language/Libraries (C, Python, CPLEX)

MS Office packages, Solver Add-in, Monte-Carlo simulation, Time series forecasting

Workshop (Fabrications, Welding, Maintenance, Material Handling) | **Languages** (Nepali, English, Hindi)