

NARAYAN RAI

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Education:

- **Bachelor:** Mechanical Engineering, Pulchowk Campus, Institute of Engineering, Tribhuvan university [Nov 2018-Jul 2023]
- **10+2:** Godawari Higher Secondary School, Itahari [2016-2018]
- **SLC:** Him Shikhar English School, Itahari, Sunsari [2016]

Research Interest:

Energy, Manufacturing, Robotics, Automation, Control, Automobile, Bioinspired Engineering

Technical and Research Experience:

- **Mechanical Engineer & Researcher-January 2024- Current**
 - TD Energy and Multi Construction Pvt. Ltd.
 - Conduct literature reviews while preparing technical proposals, work plans and methodologies for projects
 - Monitor and supervise project implementation
 - Monitor and conduct data analysis from survey questionnaires/energy audits
 - Prepare reports to be submitted to clients and stakeholders
 - Prepare and deliver presentations to clients and stakeholders
- **Undergraduate Student Researcher-2023**
 - Thesis title “Modification of Internal Combustion Engine Vehicle Powertrain to Electric and Dynamic Simulation of the Vehicle”
 - Removal of ICE components, selection of replacement electronic components
 - Design, analysis and fabrication of components and installation of Electric motor into the vehicle
 - Simulation of performance of the vehicle in electric mode
- **Intern-2022**
 - Laxmi Intercontinental Auto Services, Hyundai, Lalitpur, Nepal
 - Training on technical operations, repair and services of vehicles.
 - Study of vehicle parts and their working mechanisms. [EV and ICE vehicles]
 - Training on service advising, communicating with the customer and technicians.
- **Enumerator-2019**
 - Center for Energy Studies, Pulchowk Campus & Water and Energy Commission Secretariat, Singhadurbar, Nepal
 - Door-to-door data collection of energy supply and consumption in homes and organizations in two municipalities of Okhaldhunga, Nepal

Projects:

- Model of a working Waste Water Treatment Plant
- Design and Simulation of Pelton Bucket using ANSYS Fluent
- Computational Fluid Mechanics – Airflow Around a Spoiler
- CFD Simulation Through a centrifugal Pump
- 3D Modeling of a motorcycle using SolidWorks, Mini-project in Machine Design Course
- Wastewater Treatment Using Duckweed [2024]
- Design of a mask shredder machine using SolidWorks

Software Skills:

- **3D modeling and drawing:** SolidWorks | AutoCAD
- **Simulation:** Ansys | Simulink | Python
- **Programming:** Python [Data Analysis, Machine Learning, Deep Learning] | C | C++ | MATLAB | ROS
- **Microsoft Package:** Word | Excel | PowerPoint
- **Python Libraries:** Numpy | Pandas | Matplotlib | SciPy | Scikit-learn | Seaborn | Selenium | PyTorch
- Maple | Latex

Workshops and Trainings:

- **Research Methodology Training Program:**

Organized by Center for Energy Studies, IOE and supported by the University Grants Commission
Training on the aspects of research methodology of scientific researches.

- **Electrical Hardware Fellowship:**

Organized by LOCUS 2021 and Robotics Club, Pulchowk Campus
Training on the introduction, design, fabrication and testing of electronic components.
Hands on workshop in programming Arduino, soldering and building electric circuits.

- **Introduction and Workshop on SOLIDWORKS**

Organized by SOMES 2019
Training on the introduction to CAD and workshop on SOLIDWORKS

Certificates

Certified SolidWorks Associate (CSWA) – Mechanical Design, Additive Manufacturing
Dassault Systèmes

References

Assoc. Prof. Rajesh Kaji Kayastha – Project Supervisor, Associate Professor (*Metrology and Instrumentation*)

Department of Mechanical Engineering, Institute of Engineering (Pulchowk)
rkkayastha@pcampus.edu.np

Asst. Prof. Tek Raj Subedi – Project Supervisor, Assistant Professor (*Renewable Energy Engineering*)
Department of Mechanical Engineering, Institute of Engineering (Pulchowk)

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Prof. Dr. Mahesh Chandra Luintel - Professor (*Instrumentation and Control, FEM*),
Department of Mechanical Engineering, Institute of Engineering (Pulchowk)
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