

Er. Binaya Basnet

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Kageshwori Manohara 9, Kathmandu, Nepal

PROFESSIONAL EXPERIENCE

Project Engineer

Sumnima Hydropower Company Pvt. Ltd.

Dec. 2024 – Present

KMC-01, Kathmandu, Nepal

- Involved in the development of Upper Pikhua (4.9 MW) and Pikhua Pashupati (4.1 MW) hydropower projects.
- Lead technical coordination and management for construction and project execution.
- Prepared civil contract documents based on FIDIC conditions; negotiated terms and conditions with contractors.
- Collaborated with experts to prepare Hydromechanical (HM), Electromechanical (EM), and Transmission Line (TL) bid documents.
- Bid evaluation, selection, and finalization of contracts.
- Conducted regular site visits to ensure compliance with technical specifications, quality, safety, and standards.
- Prepared technical and financial progress reports for submission to banks, government agencies, and stakeholders.
- Reviewed and verified bills, technical drawings, specifications, and construction methodologies submitted by consultant, contractors and suppliers.

Consultant

Freelance

Jun. 2024 – Nov 2024

Kageshwori Manohara 9, Kathmandu, Nepal

- Developed a GIS database of all listed hydropower and solar energy projects in Nepal, covering various stages of development, in the context of the Integrated Nepal Power System (INPS) and the planned timeline for Dudhkoshi Storage HEP completion, as part of ADB-supported studies updated to 2024.
- Developed an interactive web map to visualize the locations and key attributes of hydropower and solar projects across Nepal, supporting technical studies on power system development and renewable energy integration: <https://hydronaxa.com>

Student Assistant

Asian Institute of Technology (AIT)

Aug. 2022 – May 2024

Pathum Thani, Thailand

- Maintained the University program (WEM) website
- Wrote news articles about programs and seminars
- Posted news, events information and job vacancies on the official website, Facebook page and LinkedIn

Civil Engineer

MS Tech Pvt. Ltd.

Apr. 2019 – Aug. 2022

Bhaktapur, Nepal

- Feasibility study of Hongu Khola HPP (28.9 MW)
- Conducted geotechnical study of Simbuwa Khola HPP (70.34 MW) and 3D printed terrain model of the project area
- Conducted alternative study of Bheri-4 HPP (278.92 MW) as PROR and Storage project with hydrological and energy analysis
- Prepared GIS maps for Humla Karnali-1 (235.15 MW) and Humla Karnali-2 (335.07 MW) Hydropower Projects for the scope of feasibility study report preparation.
- Performed GIS mapping for Dharamnagar Solar Farm (10 MW) and reviewed feasibility study reports
- Prepared a GIS database of all listed Hydropower and Solar projects of Nepal and other studies as part of a study on "Power demand and supply studies for integrated Nepal Power System (INPS) in the context of Dudhkoshi Storage HEP" for the ADB

- Ranked 34 hydropower projects from DoED basket for Bagmati Province by desk study level assessments and report preparation
- Created interactive maps of Hydropower Projects of Nepal from shape-files using QGIS software
- 3D modeled buildings and prepared product advertisement materials for Sarthak Concrete Pvt. Ltd.

Research Engineer

Apr. 2019 – Aug. 2022 (part time)

Science Playground Pvt. Ltd.

Bhaktapur, Nepal

- Built the company website using WordPress
- 3D printed elevation model of Nepal using dataset from Aster DEM and prepared map features for overlay projection
- Designed and implemented science exhibits such as Ames room, Galton board, Stereographic projection shadow, Uphill cone, Single lens camera, Vortex, Sundials, Hyperbolic groove, Conic section, Exponential dominos, Anamorphic mirrors, Shadow wall, Tensegrity table, Augmented reality sandbox, Zoetrope, Coupled pendulum and more

EDUCATION

Asian Institute of Technology

Pathum Thani, Thailand

Master of Engineering in Water Engineering and Management (3.6 GPA) Aug. 2022 – May 2024

- Thesis: Climate-Risk Informed Reservoir Operation for Improved Energy Production and Fisheries in the Lower Mekong River Basin: A Case Study of the 3S River Basin (*Implemented AI machine learning technique (LSTM) in hydrology-related research*)
- Courses: Hydrology, Climate Change, Modeling of Water Resources Systems, River Engineering etc.

Khwopa Engineering College

Bhaktapur, Nepal

Bachelor of Engineering in Civil Engineering (2.9 GPA)

Sep. 2014 – Aug. 2018

- Final Year Project: Structural analysis and design of a commercial-cum-residential building
- Electives: Geographical Information System (GIS), Structural Dynamics, Seismic Resistance Design of Structures

VOLUNTEER EXPERIENCE

International Institute for Environment and Development

Bangkok, Thailand

Volunteer

22 May 2023 – 25 May 2023

- Supported the organization of CBA17: Local Solutions Inspiring Global Action, a global conference on community-based adaptation.
- Oversaw front-desk reception, cordially received participants, and facilitated the verification and distribution of identification credentials.
- Assisted with event logistics, session coordination, and on-site facilitation to ensure smooth execution.

TECHNICAL SKILLS

Water Engineering and Hydrology Software:

HEC-HMS, HEC-ResSim, HEC-RAS/HEC-GeoRAS, MIKE+, QUAL2K, MODFLOW, SWAT

Civil Engineering Software:

AutoCAD 2D/3D, BricsCAD, ArcGIS/QGIS, SketchUp, SAP2000, Phase²/RS2

Programming and Data Analysis:

Python, Anaconda, Pandas, GeoPandas, Matplotlib, VScode, Jupyter Notebook
 Cloud Computing (Google Earth Engine, GEE Python API, Google Colab, Kaggle)
 C# / .NET Programming

AI and Machine Learning:

Keras, TensorFlow, Scikit-Learn, Long short-term memory (LSTM)

Climate Science and Data Processing:

Accessing Global Climate Models (GCMs) from IPCC website, working with NetCDF files, downscaling, and bias correction

Productivity Software:

Microsoft Office (Word, Excel, PowerPoint), LibreOffice, Google Workspace, L^AT_EX

ADDITIONAL SKILLS

- 3D terrain modelling and 3D printing
- Website design using WordPress
- Web Scraping using Python
- Bilingual in English and Nepali
- Prompt Engineering in ChatGPT

PROFESSIONAL MEMBERSHIP

Nepal Engineering Council (since 2019)

AIT Alumni Association (since 2024)

REFERENCES

Muna Sharma

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Prof. Sangam Shrestha

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Ashish Subedi

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