Garima Acharya

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Areas of Interest

Water Resources Engineering, Environmental Engineering, Climate Change, Energy

Education

Pulchowk Campus, Institute of Engineering (IOE), Tribhuvan University 2020 to Ongoing
Bachelor's in Civil Engineering *Rank 1: Seventh Semester*

Kathmandu Model College 2017 to 2019
+2 in Science *GPA: 3.71*

Experience

Research Intern | *CWRS* May 2024 – Ongoing

- Developing a gridded climate data product for Nepal for the years 2013-2023, a continuation of the work of Water and Energy Commission Secretariat of Nepal and Tractebel.
- Implemented Inverse Distance Weightage **(IDW)** method for temporal interpolation and Co-Kriging for spatial interpolation of temperature and precipitation data.
- Selected from a competitive pool of 200 civil engineering students, emerged as the top candidate among the 17 chosen for the internship.

Research Assistant October 2021 – Ongoing

- Actively engaged as a Research Assistant under the guidance of Assoc. Prof. Shukra Raj Paudel.
- Handled international collaborative research with professors from globally recognized institutions: Eawag, Duke University, National Renewable Energy Laboratory, USA, Coventry University, and La Trobe University.

President | *KVLC* October 2022 – October 2023

- Served as the President of Kathmandu Valley Leo Club, Pulchowk Campus after the successful tenure as Vice-President.
- Led a dynamic team of over 130 engineering activists in organizing 20+ impactful community service campaigns and nation-wide ideathon for fostering social entrepreneurship.

Chief Operational Officer| *MeasureMe.AI* August 2021 – January 2023

- Transformed an idea into a social startup utilizing 3D reconstruction technology for automated child malnutrition assessment, dramatically improving child health outcomes.
- Represented the company on the global stage at **Hult Prize Global Accelerator 2022** in Boston, US

Publications

Published

1. Shrestha, A.*, Bhattarai, .N.*, **Acharya, G.***, Timalsina, H.*, Marks, S. J., Uprety, S., & Paudel, S. R. (2023). Water, sanitation, and hygiene of Nepal: status, challenges, and opportunities. ACS ES&T Water, 3(6), 1429-1453. DOI: https://pubs.acs.org/doi/abs/10.1021/acsestwater.2c00303
2. **Acharya, G.**, Shrestha S., Poudel S. & Paudel, S.R. (2024). Climate change challenges to meeting the sustainable development goals in the Hindu Kush Himalayan region, International Journal of Environmental Studies, DOI: 10.1080/00207233.2024.2322883

Under-Review

1. **Acharya, G.**, Paudel, P., Gaura, E.& Paudel, S.R. (2024). Sustainable pathways towards net-zero emission for developing regions. Energy Policy (Q1, IF=9)
2. Baniya,S., Angove,M.J., Wagle, A.,**Acharya, G.**, Khatri, M., Mainali, B., Ngo H.H., Guo W. and Paudel SR.,2023. A review of the implications of hydroxyl radical and hydrogen peroxide as earthquake chemical precursors. Journal of Hydrology (Q1, IF=6.4)

Under-Preparation

1. **Acharya, G.**, Shrestha, S. & Paudel, S.R. (2024). The role of machine learning in biohydrogen economy.Book Chapter Elsevier

Awards

- **Best Student of Campus Award**: Honored as the Student of the Year-2080, among **2,000** students and 8 engineering departments of Pulchwok Campus for achievements in academic pursuits, research, and innovation.
- **Hult Prize Global Accelerator 2022, Boston, US**: Led my team to victory at the Kathmandu Regionals Summit, outshining over **30,000 teams** globally to secure a spot among the **top 16 teams worldwide**.
- **Best in Department**: Recognized as the semester topper among **200** civil engineering students at Pulchowk Campus for the seventh semester.
- **Research Grant Recipient**: Awarded a grant of $1000 by the American Society of Nepalese Engineers(ASNEngr), Washington DC, USA.
- **International Civil Engineering Symposium,2022**: Bagged 7 out of 8 gold medals in competitions, including in concrete design, model design, and others in NIRMAAN ICESS, Bangalore, India.
- **Merit-based scholarship for Bachelor's degree**: Recipient of a fully-funded, merit-based scholarship from the Government of Nepal for pursuing a Bachelor's degree in Civil Engineering. .

Projects

Hydrological and Climate Modeling | *SPHY, R, Python, AquaCrop*

- Assessed the contribution of glacier and snow melt in total streamflow in the Gandaki Basin.
- Projected the future climate using the Shared Socio-economic Pathways (SSPs)
- Evaluated the impact of climate change on streamflow and contribution of glacier and snow melt
- Evaluated the implications of the melt in offsetting drought impacts on agriculture and the environment.

Earthquake Early Warning System | *Python, MLP*

- Collaboration with the **Civil and Environmental Engineering of the Duke University** to establish an earthquake early warning system in the Kathmandu Valley
- Employed **Multilayer Perceptron** algorithm to predict the earthquake's S-wave parameters during early warning.
- Presented a poster at the Geo-Hazard Symposium, held in Kathmandu, Nepal