AJEETA SHRESTHA

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EXPERIENCE

Auburn University | Graduate Research Assistant

Auburn, AL, USA | JAN 2024 – Present

- Predicting streamflow and assessing climate change impacts on extreme hydrological events using advanced machine learning techniques.
- Developing and optimizing large-scale, data-driven hydrological models by integrating land-use data (LUH2), climate projections (CMIP6), and atmospheric reanalysis datasets (ERA5) for the Alabama, Tombigbee, and ACF basins.
- Presented findings in various conferences and poster sessions like American Geophysical Union (AGU) and AU Grad Poster.

Nepal Center for Engineering and Research | Civil Engineer

Kathmandu, Nepal | MAY 2022 – DEC 2023

- Worked on 20+ drainage projects—spanning 20 to 200 acres—that focused on hydrological and hydraulic modeling, stormwater management, and floodplain mitigation.
- Designed detention ponds and conducted cut-fill and conveyance analysis manually using Excel, or using software like HEC-HMS, HEC-RAS 1D and 2D, and Civil 3D,
- Designed storm sewer networks for road development projects using EPA SWMM & Autodesk SSA,
- Applied drainage criteria and hydraulic design manuals of relevant jurisdictions like Harris County, Fort Bend County, City of Houston, etc., to ensure compliance with the local standards,
- Prepared detailed drainage reports for client review and project documentation,
- Trained and supervised a group of four interns in similar projects.

EDUCATION

Auburn University | MS in Crop, Soil & Environmental Sciences

Auburn, AL - JAN 2024 - Present

- Graduate Research Assistantship (*Full tuition coverage*).
- **GPA 4/4** | Relevant courses: Hydrological modeling, Deep Learning for Environmental Science, Climate Change, Hydraulics, Watershed Hydrology, Geographic Information System (GIS).
- **Thesis**: *Terrestrial Hydroclimate Impacts on Coastal River Discharge using Explainable Deep Learning*

IOE, Pulchowk Campus, Tribhuvan University | Bachelor's Degree in Civil Engineering

Kathmandu, Nepal - NOV 2017 - JUL 2022

- Full Scholarship Awardee (*awarded to top 1% of applicants*).
- **74.11%** | Relevant courses: Hydrology, Hydraulics, Irrigation Engineering, Water Supply and Sanitation
- **Project**: *Hydro-climate projections for watersheds in Eastern Nepal*

CERTIFICATIONS

- **Engineer-in-Training (EIT) Certification** (FE Civil Exam, NCEES, 2025)

SKILLS

- **Hydrologic & Hydraulic Modeling**: HEC-RAS (1D/2D), HEC-HMS, EPA SWMM, HY-8, Autodesk SSA
- **Engineering Software**: AutoCAD Civil 3D, QGIS, ArcGIS
- **Programming & Data Analysis**: Python, R, VBA, Microsoft Excel, Machine Learning

PUBLICATIONS

Shrestha, A., Subedi, B., Shrestha, B., Shrestha, A., Maharjan, A., Bhattarai, P. K., & Pandey, V. P. (2023). Projected Trends in Hydro-climatic Extremes in Small-to-mid-sized Watersheds in Eastern Nepal based on CMIP6 Outputs. *Climate Dynamics*. https://doi.org/10.1007/s00382-023-06836-1