CURRICULUM VITAE

Subash Poudel

MS Student
Department of Civil and Environmental Engineering
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Education

- MS in Civil Engineering, Department of Civil and Environmental Engineering, JSU, MS, USA (2024 Fall-present)
- Undergraduate: Bachelor's degree in civil engineering, Tribhuvan University, Nepal (2022)
- Higher secondary school: Valmiki College, Nepal (2017)
- Secondary school: Valmiki Shiksha Sadan, Nepal (2015)

Tools and Skills

- Spatial tools and Remote sensing: Geographic Information System (GIS) and Google Earth Engine, USGS Wildcat Model
- Programming: Python, Matlab, Dart, Javascript, C
- Web and App Development: Flutter, Firebase, React
- Design and Drafting: Computer Aided Design (AutoCAD, Civil 3D)
- Instrumentation: Total station, Level machine, Current meter, Electrical Resistivity Tomography (ERT)
- Office & Project Management Tools: Microsoft Word, Excel, PowerPoint, Project
- Specialized Analysis: Post-wildfire debris flow assessment, Multi-hazard risk modeling, Geospatial data automation

Achievements/ Awards

- **Scholarship** with a position as Graduate Research Assistant in the Department of Civil and Environmental Engineering under Prof. Dr. Rocky Talchabhadel in Jackson State University from the "Hydrological Impacts Computing, Outreach, and Resiliency Partnership (HICORPS) Project" in collaboration with ERDC and WOOLPERT.

- **Mahatma Gandhi Scholarship Scheme** by Embassy of India for higher secondary education in Valmiki College (2016)
- **2nd Topper of Chitwan District** in SLC examination conducted by SLC Board in 2015

Professional Organization Membership

Student Member

- Geological Society of America (GSA)
- American Society of Civil Engineers (ASCE)
- European Geosciences Union (EGU)
- American Geophysical Union (AGU)

General Member

- Nepal Engineering Council (NEC)

Conference Presentations

1. **Poudel,** S., Bista, S., & Talchabhadel, R. (2025). "Multi-Hazard Risk Assessment in CZMA Areas: A Geospatial Framework Integrating Future Scenarios" [Poster presentation]. European Geosciences Union (EGU) General Assembly.
2. **Poudel, S.,** Bista, S., & Talchabhadel, R. (2025). "Mapping Multi-hazards in Coastal Cities Using Geospatial Techniques" [Oral presentation]. American

Ongoing Research Works

1. Poudel, S., Bista, S., & Talchabhadel, R. (2024). Flood Vulnerability Index of US Coastal Cities and Its use in assessing climate change impacts [Poster presentation]. Research Engagement Week, Jackson State University.
2. Poudel, S., Bista, S., Bhattarai, S., & Talchabhadel, R. (2025). Multi-hazard vulnerability assessment of US coastal cities [Manuscript in preparation]. Department of Civil and Environmental Engineering, Jackson State University.

Professional Experience

1. **Model-Mod Intern** at the Coastal and Hydraulics Lab (CHL), Engineer Research and Development Center (ERDC), Vicksburg, MS from May to July 2025. Summary: Conducted research on post-wildfire debris flow occurrence in western United States hilly regions. Performed comprehensive literature review and utilized Monitoring Trends in Burn Severity (MTBS) wildfire perimeter dataset for analysis. Learned and implemented USGS WildCat model for debris flow probability assessment. Collected and processed geospatial datasets including Digital Elevation Models (DEM), difference Normalized Burn Ratio (dNBR) from satellite imagery, fire severity maps, vegetation land cover data, and soil property databases. Developed Python automation scripts for

model workflows and integrated debris flow probability outputs into Multi-Hazard Risk Index (MHRI) framework for California coastal cities risk assessment.

2. **Working as a Graduate Research Assistant** under Dr. Rocky Talchabhadel in Jackson State University, Jackson, Mississippi, USA from Fall 2024.
3. **Worked as a Civil Engineer** at the Civil Aviation Authority of Nepal (CAAN) from February 2023 to May 2023
   Summary: Oversaw the New Terminal Building Construction Project at Nepalgunj Airport as the client's representative engineer. Worked alongside senior engineers from the consultancy team to successfully address groundwater ingress issues during raft construction, ensuring project stability and efficiency.
4. **Worked as a Civil Engineer** at Quartz Group Pvt. Ltd. from June 2022 to October 2022.
   Summary: Supervised and conducted soil field tests (SPT, DCPT, and ERT), performed laboratory analyses, and prepared interpretative reports. Led soil investigations for infrastructure projects, ensuring accuracy and reliability through Electrical Resistivity Testing (ERT) for subsurface characterization.

Projects

1. **Post-Wildfire Debris Flow Risk Assessment for California Coast**
   Summary: Implemented USGS WildCat model for assessing debris flow probability following major wildfires in western United States. Processed comprehensive geospatial datasets and developed Python automation workflows for model implementation. Successfully integrated debris flow probability outputs into Multi-Hazard Risk Index (MHRI) framework to assess risk levels for various California coastal cities. Utilized MTBS wildfire perimeter dataset to identify and analyze fire-affected watersheds.
2. **Conducted research on Discharge Prediction at the end of HUC2 watersheds of the Mississippi River Basin using LSTM Method in December 2024.**
   Summary: Developed a machine learning model using Long Short-Term Memory (LSTM) networks to predict discharge at HUC2 watershed outlets. The project was completed as part of the Machine Learning course during the Fall 2024 semester. Code and demonstration are available on GitHub.

3. **Completed a Final Year Thesis on Seismic Vulnerability Evaluation and Retrofitting of Existing RCC Structures (2021/22)**
   Summary: Assessed the seismic vulnerability of Reinforced Cement Concrete (RCC) structures using both Qualitative and Quantitative Assessment procedures based on FEMA guidelines. Modeled and detailed structural components using ETABS following

Indian Standards and Guidelines. Proposed retrofitting strategies with reinforcement modifications, ensuring structural stability under various load conditions.

Contact information

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References

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