# Shishir Chaulagain

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## EDUCATION

**Purdue University**, Lyles School of civil and construction engineering **West Lafayette, IN**
*Candidate for Master of Science in Engineering*: Civil engineering | Expected Dec 2026
Cumulative GPA (Projected): 4.00/4.00

**Tribhuvan University**, Institute of Engineering **Kathmandu, Nepal**
*Bachelor of engineering:* Civil Engineering, Apr 2024
Cumulative GPA: 3.72/4.00 (Scholaro Evaluation)

## SKILLS

**Engineering Software:** HEC-RAS, HEC-HMS, ArcGIS Pro, SWAT, MOD-FLOW, AutoCAD
**Programming & Data Analysis:** Python, Microsoft Excel, Word, PowerPoint, Machine Learning (ML/DL), Computer Vision
**Technologies:** Internet of Things (IoT)

## PROFESSIONAL EXPERIENCE

**Merwade's Research Lab**, Graduate Research Assistant, Jan 2025 – Present **West Lafayette, IN**

- Developed python-based models to use surface water and ocean topography (SWOT) for creating river bathymetry.
- Assessed culvert embedment parameters for Indiana waterways.

**ERMC**, Civil Engineer, April 2024 – Dec 2024 **Kathmandu, Nepal**

- Performed hydrological modeling using HEC-HMS for feasibility analysis of Tila Hydropower, improving model accuracy and reducing simulation error by 12% compared to prior models.
- Served as project manager for Kanke Deurali Water Impounding reservoir, overseeing budgeting and documentation and increased the profit percentage by 15%.

## PUBLICATIONS

- Chaulagain, S., Lamichhane, M., Chaulagain, U., Gyawali, S., Shrestha, S., & Pandey, V. P. (2024). Evaluating Different Drought Products for Assessing Drought and Implications on Agriculture in Nepal (Results in Engineering, Impact Factor =7.9)
- Chaulagain, S., Lamichhane, M., Chaulagain, U. (2025). A review of current trends, challenges, and future perspectives in machine learning applications to water resources in Nepal (Journal of hazardous materials advances, Impact Factor = 7.7)

## PROJECTS

- Conducted 2D flow modeling of the Muncie River channel in Indiana using HEC-RAS, applying shallow water equations to analyze hydraulic behavior and channel dynamics. (Certified Course from Udemy)
- Conducted sediment analysis using ArcSWAT, modeling hydrologic processes (PET: 1,363.30 mm; precipitation: 1,118.60 mm; runoff: 433.44 mm/yr) and sediment transport (upland yield: 65.02 Mg/ha; instream change: -58.32 Mg/ha) to support watershed-scale environmental assessment. (Certified Course from Udemy)

## LEADERSHIP & VOLUNTEER EXPERIENCE

**Sewak Nepal, Volunteer**, Jan 2022 – Present **Kavre, Nepal**

- Tutored mathematics and organized quiz competitions for orphan children.
- Raised over $2,000 for orphan children's education and welfare through my personal network.