

Damodar Poudyal, EIT

(605)-545-7380 | d.poudyal22@gmail.com | [LinkedIn](#) | [Portfolio](#) |

PROFESSIONAL SUMMARY

Water Resources Engineer with 3+ years of expertise in hydrological-hydraulic modeling, stormwater analysis and drainage management, flood mapping and mitigation, watershed analysis, and GIS-based studies. Experienced in water quality assessment, site supervision, construction support documentation, data-driven decision-making, and technical report writing. Demonstrates strong organizational skills and the ability to thrive in both independent and dynamic, team-oriented environments while delivering sustainable, client-focused engineering solutions. Actively pursuing Civil and Water Resources Engineering PE licensure.

EDUCATION

Jan 2023 – Dec 2025 | Ph.D. Civil and Environmental Engineering | *South Dakota Mines, US* | GPA:4.0

Jan 2021 – Dec 2022 | M.Sc. Civil and Environmental Engineering | *South Dakota Mines, US* | GPA:4.0

Sep 2013 – Oct 2017 | B.Sc. Civil Engineering | *Tribhuvan University, Nepal* | GPA:3.7

TECHNICAL SKILLS

Hydrologic-Hydraulic: HEC-RAS (1D/2D), HEC-HMS, Flood Mapping, Channels/Culverts/Conduits Design

Stormwater: SWMM, Stormwater Management, Flood Mitigation, Design of Detention/Retention Ponds and Outfalls

Spatial & Field Analysis: ArcGIS Pro, QGIS, ArcMap, RTK GPS, Aerial/Drone Data

Design Tools: AutoCAD, Civil 3D

Office Tools: Microsoft Office (Excel, Word, PowerPoint, Outlook)

Other: Python, Machine Learning, Statistical Data Analysis, Presentation/Illustration, Decision Supports

Interested To Learn: HY8, StormCAD, HydroCAD, Colorado code Compliance, FEMA Permits

SOFT SKILLS/COMPETENCIES

Learner, Growth Mindset, Self-Starter, Client Engagement, Collaboration & Communication, Multitasking, Technical Reports (Plans, Specifications, and Estimates), Critical Thinking, Problem Solving, Attention to Details, Professionalism

RELEVANT COURSEWORK

Open Channel Flow, Hydraulics, Surface Water Hydrology, Watershed Hydrology, Sediment Transport, Drainage Design, Environmental Engineering, ArcGIS, Remote Sensing

PROFESSIONAL EXPERIENCE

Graduate Assistant - *South Dakota Mines, Rapid City, SD*

Jan 2021 – Dec 2025

Hydrologic & Hydraulic Modeling Projects

- Led HEC-RAS 2D for rain-on-grid, terrain modifications, flood simulation, dam breach, and later structure analysis
- Performed HEC-RAS 1D for open-channel and pressurized conduit systems, analyzed steady and unsteady flow, evaluated water-surface profiles, flow regimes, and prepared technical hydraulic reports
- Conducted RTK GPS cross-sectional surveys of the Cheyenne River and developed HEC-RAS 1D hydraulic models to analyze bed profile-channel geometry, and flood inundation for designed period events
- Developed and calibrated a rainfall-runoff model of the Rapid Creek watershed in HEC-HMS, including watershed delineation, meteorological data inputs, loss methods, baseflow representation, channel routing, and model calibration to simulate event-based hydrographs and peak discharges

Stormwater Projects

- Analyzed stormwater runoff and supported the design and sizing of drainage networks using SWMM
- Performed hydrologic analysis using the Rational Method and SCS/NRCS-CN to develop design hydrographs for stormwater and flood control applications
- Developed and implemented LID and BMP strategies (bioretention, permeable pavement) to increase infiltration and decrease surface runoff, achieving a 30% reduction in post-development runoff volume
- Assisted with HydroCAD for evaluating pre-and post-development runoff for the designed storm using NOAA data to meet peak-flow attenuation requirements and permitting
- Developed water resources planning & designed a novel passive treatment system for the removal of PFAS (93–99%), and suspended sediments (81-95%) from stormwater ponds in compliance with regulatory standards

ArcGIS Projects

- Conducted watershed and sub-basin delineation, prepared study area layout and georeferenced DEM for H&H models, created and managed spatial inputs for HEC-RAS 2D model domain

- Analyzed watershed (flow accumulation, drainage area, stream network); prepared project site planning by digitization of shape features
- Processed multispectral drone and NAIP images for land use land cover classification, analyzed accuracy assessment using pixel-based supervised machine learning
- Analyzed historical DOQ and NAIP imagery to evaluate pre- and post-dam changes along the Cheyenne River; prepared shape files for Civil 3D for further analysis

Stakeholder Engagement

- Collaborated with the USDA-NRCS on a project related to stream hydrology, watershed studies, and landcover analysis, and with the U.S. Air Force on stormwater management, water quality, and contaminants removal
- Presented research findings at academic, national, and international conferences, and to industry stakeholders

Civil Engineer – Lower Erkhuwa Company Limited

Nov 2017 – Dec 2020

- Developed hydrologic and hydraulic models using HEC-RAS and HEC-HMS and produced design calculations and construction drawings in AutoCAD Civil 3D, delivering projects on schedule and within budget
- Performed SWMM stormwater modeling and watershed analysis using ESRI ArcGIS Pro
- Supervised construction site, performed earthwork calculations, assisted in land development, and inspected quality control by adherence to approved budget, drawings, permits, and specifications
- Authored technical memoranda and engineering reports (PS&E), assisted with construction support documentation/ performed cost estimation for approved construction tasks, reviewed submittals, and regulatory coordination
- Coordinated with technical teams across every phase of project lifecycles (design, construction, and documentation) while supervising junior engineers and learned from project managers during project execution

Civil Engineer (Summer Internship) – Kalika Construction

Jun 2016 – Aug 2016

- Performed HEC-RAS (flow behavior and floodplain hydraulics), and HEC-HMS (watershed hydrology, estimate of runoff from rainfall events) on the Bagmati River, Kathmandu Valley
- Performed design of hydraulic structures (channels, culverts, and outfalls); prepared designs and cost estimation; assisted in quality control, construction drawings, and technical reports

LICENSURES AND CERTIFICATIONS

- Engineer-in-Training (EIT, Michigan PE Board), 2023
- Unmanned Remote Pilot license (Federal Aviation Administration, USA, 2023)
- HEC-HMS-Endorsed by US Army Corps of Engineers and UNESCO, 2025
- HEC-RAS 1D/2D-Endorsed by US Army Corps of Engineers and UNESCO, 2025
- Flood Risk Assessment with HEC-RAS, HEC-HMS, and Q-GIS, 2025
- Project Management and Communication, 2025
- Affiliation: ASCE-EWRI, AWWA
- Valid Driver's License-Clean Driving Record
- Pursuing PE