Resume

NISCHAL KAFLE, EIT, PhD
Water Resources Engineer
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EDUCATION

PhD in Engineering Science, Aug 2026, *The University of Memphis (UofM), Memphis, TN*
Dissertation: "Rain-gauge Network Effects on the Uncertainty and Trends in Short-Duration Extreme Precipitation"

MS in Civil Engineering (Water Resources), Dec 2024, GPA – 3.95, *The University of Memphis (UofM), TN*

BS in Civil Engineering, Dec 2014, Equivalent GPA – 3.92, *Tribhuvan University (TU), Pulchowk Campus, Nepal*

PUBLICATIONS

Published

Kafle, N., & Meier, C. I. (2026). A Simple Method for Enhancing the Spatial Independence of Regional Partial Duration Series in Extreme, Short-Duration Rainfall Frequency Analyses. Stoch Environ Res Risk Assess 40, 237. https://doi.org/10.1007/s00477-026-03378-w

Kafle, N., Dell'Aira, F., Chadwick, C., & Meier, C. I. (2026). Robustness of Regionally Derived, Short-Duration Rainfall Depth-Duration-Frequency Estimates to the Choice of Minimum Interevent Time: Evidence Across Climates, Rain-gauge Densities, and Regionalization Approaches. *Journal of Hydrologic Engineering*. https://doi.org/10.1061/JHYEFF.HEENG-6729

Kafle, N., & Meier, C.I. (2026). nsEVDx: A Python Library for Stationary and Non-stationary Extreme Value Modeling. *Journal of Open Source Software*, 11(125),11187, https://doi.org/10.21105/joss.11187 (5,000+ downloads)

Meier, C.I., Dell'Aira, F., **Kafle, N.**, and Burnette, D.J. (2024). Updating Equations for Peak Flow Estimation in Urban Creeks and Streams of Tennessee (Part 1). Research final report from the University of Memphis, sponsored by the Tennessee Department of Transportation Long Range Planning Research Office & Federal Highway Administration

Under review

Kafle, N., Dell'Aira, F., Burnette, D.J., & Meier, C.I. (2026). Space and Time Resolution of a Rain-gauge Network: An Underreported Source of Uncertainty in Extreme Precipitation Estimates. https://doi.org/10.22541/essoar.15008793/v3

HONORS & AWARDS

2021 - 2026	**Graduate Research Assistantship** – **$87,600** in stipend support, UofM
2025	**Dissertation Research Grant – $5,000,** UofM
2025	Recognized as **World-Class Achiever**, Division of International Affairs, UofM
2023 - 2025	**Graduate Teaching Assistantship – $32,000** in stipend support, UofM
2010 - 2014	Merit-based **Scholarship (equivalent to $25000)** to pursue a bachelor's degree in civil engineering after **ranking 26 among over ten thousand applicants** in the national entrance exam conducted by TU

EXPERIENCE

Sep 2026 – **Postdoctoral Scholar,** The University of Memphis, TN
USGS funded project: Investigating the mechanism driving counter-intuitive observation of decreasing high-flow magnitude and frequency across urbanizing watersheds

2021 – 2026 **Graduate Research Assistant, Teaching Assistant**
Research on hydroclimatic extremes, software development, hydrological and hydrodynamic modeling, machine learning applications; Teaching undergraduate students

2019 - 2021 **Water Resources Engineer**
Department of Water Resources & Energy, Government of Nepal

- Led the technical review and feasibility study for 30+ irrigation and flood-risk management projects, supporting project approval, investment prioritization, and implementation
- Collaborated with Asian Development Bank to develop procurement guidelines and technical requirements for seven major irrigation projects
- Directed groundwater investigations and resource assessments for water resources planning
- Evaluated available water resources, irrigation demand, and infrastructure performance to support sustainable water-allocation
- Collaborated with engineering teams to develop budgeting system, GIS-based dashboard, decision-support software, engineering design tools and Excel design sheets

- Coordinated cross-agency collaboration among agricultural, environmental, and water-resource organizations to support integrated water-resources management

2015 - 2019 **Head of Technical Branch**
Department of Irrigation, Government of Nepal

- Led technical planning, implementation, and oversight of 150+ irrigation and flood-risk mitigation projects, representing over US$5 million in infrastructure investments
- Advanced adoption of innovative water-management approaches and water-efficient irrigation strategies for drought-prone and water-scarce regions
- Directed environmental impact assessments and hazard mapping to support sustainable water-resources development
- Supervised capacity-building programs for more than 20 water-user associations and farmer organizations, strengthening local governance, operational effectiveness, and long-term project sustainability

2014 - 2015 **Planning and GIS Expert**
Bright Future International Pvt. Ltd., Kathmandu, Nepal

- Developed transportation master plans for 5 rural municipalities in the hilly region of Nepal, facilitating long-term infrastructure investment and regional development
- Led stakeholder consultations and incorporated priorities from municipal leaders and ward representatives into strategic transportation planning initiatives
- Presented technical analysis and planning recommendations to stakeholders

PROFESSIONAL DEVELOPMENT

ASCE Technical Workshops on NOAA Water Resource Modeling Framework, SWMM, and CFD techniques

NSF I-Corps Hub (2025): Mid-South Region (Entrepreneurial skills and customer discovery)
Research Computing Seminars (2024/25/26), UofM: HPC, Linux/Slurm, scientific computing tools, database and SQL

SKILLS

Engineering softwares	SWMM, PCSWMM, AutoCAD, Civil 3D, HEC-RAS, HEC-HMS, OpenFOAM
Risk & geospatial analysis	GIS (ArcGIS pro, QGIS), Exposure & hazard analysis, Loss modeling, Portfolio optimization
Programming & computing	Python (PyTorch, NumPy, JAX, PyMC, NumPyro), C/C++, R, SQL, Bash
Database & data engineering	PostgreSQL, MySQL, DuckDB, Relational database design, PySpark, Dask
Statistics	Extreme Value Theory, Multivariate Analyses, Bayesian statistics, MCMC, Uncertainty Quantification, Time series modeling
AI & Machine Learning	Explainable AI (SHAP**),** Agentic (Lang Chain), Deep learning, Predictive modeling
Software development	Dashboard Deployment (Streamlit), CI/CD Pipelines (GitHub Actions), Unit Testing (PyTest)
Research tools	High-performance computing, Unix/Linux, Git, GitHub
Leadership	Leading project management and interdisciplinary collaboration
Reading/Writing	Literature Review, Synthesis, Technical Reports, Proposal Writing

SERVICE & OUTREACH

Voting Member, ASCE – Surface Water Hydrology Technical Committee; **Executive Member**, AGU Precipitation Technical Committee; **Reviewer for** Journal of Hydrologic Engineering, Frontiers in Sustainable Food Systems; **Treasurer,** Tau Beta Pi – The University of Memphis Chapter; **President,** Nepalese Student Association at the UofM (NSAUM)