Rohan Singh Wilkho

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As a Geospatial Data Scientist, I bring a unique blend of skills from my experiences in mathematical modeling, machine learning, and geospatial data analysis. My hands-on work in developing GIS, AI, and data-driven tools, coupled with data science internship, equip me with practical insights into environmental challenges. Currently pursuing a Doctorate in Civil Engineering and a master's in computer science, I am adept in Python and R, emphasizing interdisciplinary problem-solving and innovation in climate technology.

RELEVANT EXPERIENCE

Graduate Research Assistant - Texas A&M University, College Station, Texas

January 2019 - Present

- Spearheaded AI-driven web harvesting system at floodfinder360.org, delivering a 63% performance boost in information retrieval for past flash flood events
- Innovated a community-level GIS tool, enhancing flash flood causality identification and susceptibility prediction by 35%
- Developed the Platform for Resilience Inference Measurement and Enhancement, improving socio-economic disaster understanding by 23%: it assesses disaster resilience indices, along with socio-economic influencers
- Leading the development of early warning systems and digital twins for flash flooding, enabling predictive flood mapping with ample lead time for life and property preservation

Graduate Teaching Assistant - Texas A&M University, College Station, Texas

August 2022 - Present

- Created tailored lab manuals and led hands-on sessions for 60+ students, boosting practical skills and engagement
- Collaborated with instructors, integrated tech, and offered personalized support, enhancing the educational environment

Data Science Intern - Pioneer Natural Resources, Irving, Texas

May 2020 - August 2022

- Designed and deployed a predictive model for real-time well-in-test identification during rotational well testing, achieving 93% accuracy
- Successfully tackled a complex business challenge in an unfamiliar industry within a three-month timeframe

TECHNICAL PROFICIENCY

- Machine & Deep Learning
- Feature Engineering
- Prompt Engineering
- Causal Discovery
- Geospatial Data Analysis
- Computer Vision
- Natural Language Processing
- High Performance Computing
- Python, R, SQL
- ArcGIS Pro
- ArcGIS Python Scripting
- C++
- Microsoft Office

SELECTED AWARDS

- *Academic:* Richard Lietz '45 Endowed Memorial Scholarship
- *Leadership/Service:* Texas A&M Montgomery Award
- *Research:* 2nd Prize in ASFPM Conference Student Paper Competition

KEY SKILLS

- Analytical Thinking
- Collaborative Problem Solving
- Project Management
- Research

EDUCATION

Texas A&M University, College Station, Texas

- **Doctorate in Civil Engineering** | January 2019 - Present
- **Master's in Computer Science** | August 2021 – Present

Jadavpur University, Kolkata, India

- **Bachelor's in Civil Engineering** | August 2012 - June 2016

RELEVANT PUBLICATIONS

DFFS: A GIS-based tool for dynamic assessment of community susceptibility to flash flooding

Sustainable Buildings and Society (Under Review)

FF-BERT: A BERT-based ensemble for automated classification of web-based text on flash flood events

Advanced Engineering Informatics, November 2023 (https://doi.org/10.1016/j.aei.2023.102293)

Predicting Flash Flood Economic Damage at the Community Scale: Empirical Zero-Inflated Model with Semicontinuous Data

Natural Hazards Review, Sept 2023 (https://doi.org/10.1061/NHREFO.NHENG-1729)

FF-IR: an information retrieval system for flash flooding developed by integrating public domain data and machine learning

Environmental Modelling and Software, June 2023 (https://doi.org/10.1016/j.envsoft.2023.105734)

RELEVANT CONFERENCE PRESENTATIONS

Flood Finder: An AI-enhanced internet search and information retrieval system for flash flooding

2023 Researcher's Meeting, Natural Hazards Center
Broomfield, Colorado

Integrating Causal Discovery and Machine Learning for Dynamic Assessment of Flash Flood Susceptibility

2023 Association of State Floodplain Managers Conference
Raleigh, North Carolina

CERTIFICATIONS

- Geographic Information Sciences | *Texas A&M*
- Spatial Data Science | *ESRI*
- ArcGIS Python Scripting | *LinkedIn*
- Python | *Coursera*
- R & SQL | *LinkedIn*

COMMUNITY ENGAGEMENT

- *Graduate and Professional Student Government* | Speaker & Executive VP, VP of Information, Senator (2019-2023)
- *Civil & Environmental Engineering Graduate Student Association* | President, Vice President, Officer (2019-2023)