ROHAN SINGH WILKHO

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SUMMARY

Driven by technology's potential for societal benefit, I am an emerging expert in machine and deep learning, data analysis, and remote sensing, focused on innovative GIS and AI solutions. My background includes a pivotal data science internship and advanced studies in Civil Engineering (Ph.D.) and Computer Science (M.S.), equipping me to tackle complex challenges with interdisciplinary and innovative approaches.

RELEVANT WORK EXPERIENCE

Graduate Research Assistant **Jan 2019 - Present**
Texas A&M University, College Station, Texas

- Led 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 socioeconomic 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

Data Science Intern **May 2022 - Aug 2022**
Pioneer Natural Resources, Irving, Texas

- 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

EDUCATION

Doctorate in Civil Engineering **Jan 2019 - Aug 2024**
Texas A&M University, College Station, Texas

Masters in Computer Science **Aug 2021 - May 2024**
Texas A&M University, College Station, Texas

Bachelor in Civil Engineering **Aug 2021 - May 2024**
Jadavpur University, Kolkata, India

SKILLS

- **Machine & Deep Learning:** Natural Language Processing (Including Large Language Modelling), Computer Vision, Feature Engineering, Supervised and Unsupervised Learning
- **Geospatial:** Remote Sensing, Geospatial Data Analysis, ArcGIS Python Scripting
- **Software:** Python, R, SQL, ArcGIS Pro, C++
- **Interdisciplinary:** Causal Discovery, High Performance Computing
- **Professional:** Analytical Thinking, Collaborative Problem Solving, Project Management, Research

SELECTED AWARDS

- **Academic:** Zachry Department of Civil and Environmental Engineering Excellence Fellowship
- **Research:** 2nd Prize in ASFPM Conference Student Paper Competition
- **Leadership:** Texas A&M Montgomery Award

SELECTED 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

CERTIFICATIONS

Geographic Information Sciences
Texas A&M University

Spatial Data Science
ESRI

ArcGIS Python Scripting, R, SQL
LinkedIn Learning

Python
Coursera

COMMUNITY ENGAGEMENT

Graduate and Professional Student Government
Texas A&M University, College Station, Texas
- Speaker & Executive Vice President (2022-23)
- Vice President of Information (2020-22)
- Senator for Civil and Environmental Engineering (2019-20)

Civil and Environmental Engineering Graduate Student Association
Texas A&M University, College Station, Texas
- President (2022-23)
- Vice President (2020-22)
- Officer and Founding Member (2019-20)