MD ZAKARIA SALIM

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SUMMARY

GIS analyst with 6+ years of experience in spatial data modeling & management, geostatistics, and automated geoprocessing. Demonstrates innovative solutions in flood risk assessment and environmental resilience, leveraging expertise in machine learning to enhance predictive models. PhD candidate in Geography at the University of South Florida.

TECHNICAL SKILLS

GIS & Remote Sensing: ArcGIS Pro, Google Earth Engine, ENVI, SNAP, SeaDAS, GeoDa, Fragstats
Programming: Python (arcpy, GeoPandas, rasterio), R, C; REST API data extraction
Spatial Methods: Dasymetric mapping, hotspot analysis, suitability modeling, machine learning
Mapping & Design: Web mapping applications, cartographic production, Adobe Illustrator, Photoshop

EXPERIENCE

Graduate Research Associate | University of South Florida, Tampa, FL ***Aug 2024 – Present***

- Built a parcel-level vulnerability model for Pinellas County, linking 240,000+ parcels to census block-group data through synthetic population generation and dasymetric disaggregation.
- Developed a Python pipeline to download aerial imagery for 240,324 parcels from the county's ArcGIS ImageServer REST API for image-based modeling.
- Conducted a county-level flood exposure analysis for the contiguous U.S. across three ACS periods, combining Fathom flood data with dasymetric population estimates and Getis-Ord Gi* hotspot analysis.
- Processed global flood hazard datasets in Google Earth Engine and analyzed land use change across 35 coastal Florida counties (2010–2023). Work published in 2025, with two manuscripts under review.

GIS Intern | University of South Florida, Tampa, FL ***May 2024 – Jun 2024***

- Developed Python scripts to extract, clean, and load water quality data from multiple sources, and automated summary statistics for reporting.
- Built interactive web maps for real-time monitoring of water quality parameters.

Graduate Teaching Assistant | University of South Florida, Tampa, FL ***Aug 2022 – May 2024***

- Led lab and discussion sections, held office hours, graded assignments, quizzes, and exams.

Associate GIS Analyst | Tiller Easing Spatial Solution, Dhaka, Bangladesh ***Nov 2019 – Jun 2022***

- Built and maintained GIS databases for environmental and infrastructure projects, including an interactive database for a national project to expand protected areas for aquatic ecosystems.
- Led survey teams collecting physical feature and household data and checked field data for accuracy before it went into project databases.
- Supported the resettlement action plan for the Sylhet–Tamabil 4-lane highway upgrade through field data collection and monitoring.
- Conducted focus groups and key informant interviews and wrote project reports with findings and recommendations.

Research Assistant | Image Research & Consultancy Ltd., Dhaka, Bangladesh ***Mar 2019 – Nov 2019***

- Produced GIS maps, charts, and reports for socio-economic assessments of low-income settlements in Dhaka.

EDUCATION

Ph.D., Geography, Environmental Science & Policy, University of South Florida ***Aug 2024 – Present***
M.A., Geography, University of South Florida ***May 2024***
Bachelor of Urban and Regional Planning, Khulna University of Engineering & Technology, Bangladesh ***May 2019***

TRAINING & AFFILIATIONS

Training: Python for Everyone (Esri); GIS Data Formats, Design, and Quality (UC Davis); Convolutional Neural Networks (DeepLearning.AI)
Affiliations: ***Treasurer***, USF GIS Club (2024–present); ***Member***, Phi Kappa Phi Honor Society (2023–present)