

# Shaikh Abdullah Al Rifat

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## SUMMARY

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Diligent GIS Analyst with five years of experience with remote sensing and ArcGIS software for quantitative spatial analysis, geospatial modeling, statistical analysis, and implementing geospatial solutions. Solid reputation for applying analytical and problem-solving skills to clearly present requested geographic data in a way that is easy to comprehend. Demonstrated skill in customer interaction and delivering GIS solutions to improve customer services. Ability to meet deadlines in fast-paced, quality-oriented environments, and adapt technical skills to execute broad-ranging client projects successfully. Continuously looks at ways to add value to take the initiative in improving processes and identifying business opportunities.

## PROFESSIONAL EXPERIENCE

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Aug 2021 – Present **THE POLIS CENTER AT IUPUI / INDIANAPOLIS, IN**

**Sr. GIS Analyst, Geoinformatics Group**

- Identifies and assess data sources.
- Creates data, maps, and other visualizations according to project requirements
- Performs spatial analysis.
- Writes analytical and action reports for a variety of stakeholders and audiences.
- Promotes efficient and effective ways to execute tasks within GIS and other geospatial tools.

Aug 2017 - Jul 2021 **FLORIDA ATLANTIC UNIVERSITY / BOCA RATON, FL**

**Graduate Teaching Assistant**

- Prepared lab materials on relevant course topics and developed assessment materials, including writing assignments and examinations.
- Trained students on how to complete GIS lab assignments, including the use of equipment when necessary.
- Assisted students with questions concerning lab assignments and final projects.
- Evaluated student performance based on assessment material.
- Labs taught: Principles of GIS, GIS Programming, Geospatial Databases, Applications in GIS, and Geovisualization & GIS.

Aug 2015 - May 2017 **CARTOGRAPHIC RESEARCH LAB, THE UNIVERSITY OF ALABAMA / TUSCALOOSA, AL**

**Graduate Research Assistant**

- Work involved GIS data collection, mapping, and technical support.
- Analyzed spatial data and provided GIS solutions for the problems faced by the customers.
- Made additions and modifications to and regularly managed the lab website (<http://alabamamaps.ua.edu/>).

Jan 2014 - May 2015 **GEO-PLANNING FOR ADVANCED DEVELOPMENT (GPAD) / DHAKA, BANGLADESH**

**Junior GIS Specialist**

- Contributed to the collection of data for mapping and research projects.
- Utilized ArcGIS and basic Python commands for geocoding locations and different spatial analysis.
- Provided GIS training to professionals from different academic backgrounds.

## RESEARCH EXPERIENCE

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### ***Monitoring and Modeling Urban Growth Process and Measuring Community Resilience to Disasters in the Coastal United States***

- PhD dissertation project for Florida Atlantic University, Department of Geosciences.
- Analyzed urban expansion types, rates, intensity and spatiotemporal patterns, and its driving factors through a series of spatial and geo-statistical methods using ArcGIS and remotely sensed data.
- Used and developed various geospatial resources (e.g.: satellite imagery, digital elevation models (DEMs), socioeconomic datasets, and spatial statistics) to quantify spatial characteristics of LULC change at a fine spatial-scale.
- Developed a spatial model to quantify community resilience to disasters in the coastal United States by considering spatial relationships between disaster impacts and resilience components.
- Validated the spatial resilience to disasters model for the coastal communities in the United States.
- Modeling and predicting urban growth and land use land cover changes considering future sea level rise and climate change impacts in the coastal region of the United States using an integrated Multi-Layer Perceptron Algorithm Artificial Neural Network – Markov Chain (ANN – Markov) model.

- This research could make a significant contribution to disaster management to reduce community vulnerability and enhance community disaster resilience in coastal areas.

#### **Factors Influencing Inland Property Damage from Landfalling Gulf of Mexico Tropical Cyclones**

- Master's thesis project for The University of Alabama, Department of Geography.
- Developed a method to define inland area in the event of tropical cyclones using ArcGIS.
- Developed a GIS-based model to analyze inland vulnerability to tropical cyclones in Southeastern United States.

#### **Relationship between Social Vulnerability and Casualty of Tropical Cyclone using Python**

- Final project for the course 'GIS Programming' at The University of Alabama, Department of Geography.
- Wrote a python script using Matplotlib and Numpy functions in a GIS environment to explore the relationships between social vulnerability and tropical cyclone casualties in Alabama.

#### **Tropical Cyclone (TC) Vulnerability in Inland Mississippi using PostgreSQL and QGIS**

- Final project for the course 'Geospatial Databases' at the Florida Atlantic University, Department of Geosciences.
- PostgreSQL queries and QGIS were used to store, manipulate, and display TC vulnerable counties in Mississippi.

### **EDUCATION**

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Dec 2021 (Expected)	<b>Doctor of Philosophy in Geosciences</b> <i>FLORIDA ATLANTIC UNIVERSITY / BOCA RATON, FL</i> <ul style="list-style-type: none"> <li>• CGPA: 4.00</li> <li>• Relevant courses: Spatial Data Analysis, Geospatial Databases, Web GIS, Managing GIS Projects, Environmental Analysis in Planning, Digital Image Analysis, Coastal Hazards, GIS Programming.</li> </ul>
Aug 2017	<b>Master of Science in Geography</b> <i>THE UNIVERSITY OF ALABAMA / TUSCALOOSA, AL</i> <ul style="list-style-type: none"> <li>• CGPA: 3.84</li> <li>• Relevant Courses: Advanced GIS, GIS Programming, Quantitative Methods, Remote Sensing I, Extreme Weather and Society.</li> </ul>
Oct 2013	<b>Bachelor of Science in Urban and Rural Planning</b> <i>KHULNA UNIVERSITY / KHULNA, BANGLADESH</i> <ul style="list-style-type: none"> <li>• CGPA: 3.40</li> </ul>

### **SKILLS**

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- Programming Languages: Python, SQL.
- ESRI Products: ArcGIS Desktop, ArcGIS Pro, ArcGIS Online, ModelBuilder, Collector for ArcGIS, Survey123.
- Operating Systems and Software: Windows, TerrSet 2020, Fragstats (v4.2.1), SPSS, Erdas IMAGINE, and Microsoft office packages.
- Other: Research, surveying, geospatial modeling, geostatistical analysis, spatial analysis, geodatabase management, cartography, and team-worker.

### **JOURNAL PUBLICATIONS**

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- **Rifat, S.A.A.**; Liu, W. Quantifying Spatiotemporal Patterns and Major Explanatory Factors of Urban Expansion in Miami Metropolitan Area During 1992-2016. *Remote Sensing*, **2019**, 11, 2493.
- **Rifat, S.A.A.**; Liu, W. Measuring Community Disaster Resilience in the Conterminous Coastal United States. *ISPRS International Journal of Geo-Information*, **2020**, 9, 469.
- **Rifat, S.A.A.**; Senkbeil, J.C., and Liu, W. Assessing Influential Factors on Inland Property Damage from Gulf of Mexico Tropical Cyclones in the United States. *ISPRS International Journal of Geo-Information*, **2021**, 10, 295.
- **Rifat, S.A.A.**; Liu, W. **[Revised & Resubmitted]** One Year into the Pandemic: The Impacts of Social Vulnerability on COVID-19 Outcomes and Urban-Rural Differences in the Conterminous United States. *International Journal of Environmental Health Research*, **2021**.
- **Rifat, S.A.A.**; Liu, W. **[Under Review]** Predicting Future Urban Growth Scenarios and Potential Urban Flood Exposure using Multi-layer Perceptron based Artificial Neural Network-Markov Chain Model in Miami Metropolitan Area. *Land Use Policy*, **2021**.

### **CONFERENCE PRESENTATIONS**

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- **Rifat, S.A.A.**; Liu, W. (2020). Quantifying Spatiotemporal Patterns and Major Explanatory Factors of Urban Expansion in Miami Metropolitan Area During 1992-2016. *Paper presented at 2020 American Association of Geographers (AAG) meeting (virtual), Denver, Colorado.*

- **Rifat, S.A.A.;** Senkbeil, J.C. (2017). Factors Influencing Inland Property Damage from Landfalling Gulf of Mexico Tropical Cyclones. *Poster presented at 2017 American Association of Geographers (AAG) meeting, Boston, Massachusetts.*
- **Rifat, S.A.A.;** Senkbeil, J.C. (2016). Inland Vulnerability to Tropical Cyclones in the Southeastern United States. *Poster presented at 71st Annual Southeastern Division of the American Association of Geographers (SEDAAG) Meeting, Columbia, South Carolina.*

## **FELLOWSHIP & AWARDS**

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- GIS Day Student Poster Competition, Florida Atlantic University, FL. 2019: **1st Place Winner.**
- GIS Day Student Poster Competition, Florida Atlantic University, FL. 2018: **2nd Place Winner.**
- **Presidential Fellowship,** *Florida Atlantic University, FL,* 2017-2019.
- **Graduate Travel Award,** *The University of Alabama, AL,* 2016-2017.
- **University Merit Scholarship,** *Khulna University, Khulna, Bangladesh,* 2010-2013.