

MD. FARHAN RAFIQ

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EDUCATION

Master of Science in Oceanography (Thesis)

Feb 2024 - Present

Shahjalal University of Science and Technology, Sylhet, Bangladesh

CGPA: 3.78 out of 4.00 (40/52 credits completed)

Bachelor of Science in Oceanography

Jan 2019 - Jan 2024

Shahjalal University of Science and Technology, Sylhet, Bangladesh

CGPA: 3.66 out of 4.00

RESEARCH INTEREST

- Geographic Information System (GIS)
- Remote sensing
- Oceanographic data science
- Geospatial AI and predictive modeling
- Climate change and environmental monitoring

RESEARCH EXPERIENCE

Integrated Modelling of Urban Flood Risk in Chattogram: Application of TOPSIS, Machine Learning and Spatial Analysis Approaches

Thesis (Ongoing)

Jan 2025 - Present

- Developing a hybrid model integrating TOPSIS and machine learning for flood risk assessment.
- Leveraging ArcMap, Python, and Google Earth Engine to analyze spatial and socioeconomic data.

Spatial and Temporal Variability of PAR, Kd₄₉₀ and SST in the Bangladesh Exclusive Economic Zone (2016-2022)

Undergraduate Project

Dec 2023

- Analyzed PAR, Kd₄₉₀ and SST to identify spatial and temporal changes.
- Investigated marine productivity by visualizing PAR, Kd₄₉₀ and SST trends.

Quantitative Analysis of Annual Chlorophyll-a and Sea Surface Temperature Fluctuations in the Bay of Bengal Using Remote Sensing Data

Academic Project

Jun 2023

- Applied satellite data to analyze seasonal trends in Chlorophyll-a and SST in the Bay of Bengal.
- Created detailed geospatial visualizations using SNAP and ArcMap.

SKILLS

GIS and Remote Sensing Tools

- **ArcGIS**: Spatial analysis, geoprocessing, cartography
- **SeaDAS/SNAP, ODV**: Ocean color data preprocessing, image classification
- **Google Earth Engine**: Satellite data processing, time-series analysis

Programming and Data Analysis

- **Python**: Pandas, NumPy, Matplotlib, scikit-learn, Seaborn
- **R**: Geospatial analysis, visualization
- **Microsoft Excel**: Advanced functions, PivotTables, dashboards

Oceanographic Tools

- Mini CTD, Plankton Net, Grab Sampler, Water Multi-parameter, Algal torch

AWARDS & HONORS

National Science and Technology (NST) Fellowship

Ministry of Science and Technology, Government of Bangladesh

Apr 2025

- Awarded to support M.S. Thesis, recognizing academic excellence and research potential

INTERNSHIP

Marine Phytoplankton Study in the Bay of Bengal

Bangladesh Fisheries Research Institute (BFRI), Cox's Bazar, Bangladesh

Mar 2025

- Conducted phytoplankton culture, growth monitoring, and microscopic identification.
- Performed field sampling, specimen preservation, and isolation techniques.

CERTIFICATIONS

- Going Places with Spatial Analysis | MOOC - ESRI** Mar 2025
Key Skills: Spatial data analysis, pattern identification, and predictive modeling
- Spatial Analysis and Satellite Imagery in GIS | University of Toronto - Coursera** Nov 2023
Key Skills: Remote sensing, raster data processing, and spatial relationship analysis
- Volunteer | International Symposium on Marine Resource Management, SUST** Mar 2023
Key Skills: Event logistics, participant coordination, and symposium activity support
- Cartography | MOOC - ESRI** Mar 2022
Key Skills: Map design, GIS visualization, and geospatial representation

LANGUAGES

- Bengali (Native)
- English

REFERENCES

Dr. Subrata Sarker

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