

# MD. FARHAN RAFIQ

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## EDUCATION

### Master of Science in Oceanography (Thesis)

Feb 2024 - Jan 2026 (expected)

Shahjalal University of Science and Technology, Sylhet, Bangladesh

- CGPA: 3.78/4.00 (40/52 credits completed)

### Bachelor of Science in Oceanography

Jan 2019 - Jan 2024

Shahjalal University of Science and Technology, Sylhet, Bangladesh

- CGPA: 3.66/4.00

## 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

Masters' Thesis (Ongoing)

Jun 2025 - Jan 2026 (expected)

- 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, Kd<sub>490</sub> and SST in the Bangladesh Exclusive Economic Zone (2016-2022)

Undergraduate Project

Dec 2023

- Analyzed PAR, Kd<sub>490</sub> and SST to identify spatial and temporal changes.
- Investigated marine productivity by visualizing PAR, Kd<sub>490</sub> 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

### Field & Oceanographic Tools

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

## AWARDS & HONORS

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### National Science and Technology (NST) Fellowship

Apr 2025

Ministry of Science and Technology, Government of Bangladesh

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

## INTERNSHIP

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### Marine Phytoplankton Study in the Bay of Bengal

Mar 2025

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

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

## CERTIFICATIONS

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| • <b>Going Places with Spatial Analysis</b>   MOOC - ESRI                                 | Mar 2025 |
| • <b>Spatial Analysis and Satellite Imagery in GIS</b>   University of Toronto - Coursera | Nov 2023 |
| • <b>Volunteer</b>   International Symposium on Marine Resource Management, SUST          | Mar 2023 |
| • <b>Cartography</b>   MOOC - ESRI  | Mar 2022 |

## LANGUAGES

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- Bengali (Native)
- English

## REFERENCES

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- **Dr. Subrata Sarker**  
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- **Abu Bokkar Siddique**  
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