MD. TANZIM HASAN

tanzimenvst@gmail.com
+880 152 131 8465
linkedin.com/in/md-tanzim-hasan
tanzimenvst.github.io
(please check my online portfolio for work examples)

Proactive GIS professional with 3.5+ years of experience translating complex geospatial data into actionable insights. Skilled in Python-based GIS automation and WebGIS development, I am passionate about enhancing data accessibility and visualization. I leverage advanced geospatial technologies to deliver impactful solutions that empower decision-making and drive results.

Work Experience

SPEKTER GmbH

Junior GIS Developer

Herzogenaurach, Bavaria, Germany
Dec 2024 – Present
(Remote)

- Automating repetitive hydrological modeling tasks to enhance project efficiency and workflow.
- Developing a WebGIS app for flood hazard visualization with 30, 100, and 1000-year scenarios, integrating 2D (Leaflet) and 3D (Mapbox) visualizations and a CMS for end-users.
- Created a script to generate DEMs from 1,000+ XYZ files (millions of points) and convert to raster with optimized processing.
- Built a data conversion tool for SHP, 2DM, MESH, and DFSU formats for SMS and MIKE Zero hydrological modeling.
- Designed a tool to convert NAS GML-based survey XML data to shapefiles with attribute extraction using Python libraries like GeoPandas, Shapely, ElementTree, and Codecs.
- Engineered custom Python scripts to extend DHI toolbox tools functionality outside its native environment using Mikeio and MIKE 1D, enabling advanced hydrological analyses.
- Integrated ESRI ArcMap toolbox tools (Python 2.7) with custom Python 3 scripts, combining GIS spatial processing with hydrological modeling for automated multi-tool workflows.

Geo Smart Planning

GIS Expert

Khulna, Bangladesh
Jan 2025 – Apr 2025
(Contractual - Remote)

Name of Project: Climate Damage Function (CDF) in Bangladesh

Client: United Nations Development Programme (UNDP)

- Led a team of Assistant GIS Experts in database preparation, OSM integration, boundary matching, and polygon-to-polyline conversions for multiple mouzas (cadastral land parcels).
- Developed CAD to SHP tool to convert CAD drawings to GIS-ready shapefiles, generate polygons, add attribute fields, calculate plot numbers, and remove unnecessary fields automatically.
- Built Data Conversion tool to convert PDFs and images (JPEG, PNG) to GeoTIFFs for efficient GIS use.
- Created Projection script to apply consistent spatial projections to images and shapefiles in bulk, ensuring dataset alignment.
- Executed georeferencing of ~100 sheets, spatial adjustment of ~100 sheets, and edge matching of ~300 sheets with high accuracy.
- Structured and validated agricultural and spatial databases according to project guidelines.
- Enhanced team efficiency and data consistency through automation, technical guidance, and workflow optimization.

BETS Consulting Services Ltd.

Dhaka, Bangladesh
Aug 2023 – Nov 2024

Assistant GIS Specialist

Name of Project: Mouza and Plot Based National Digital Land Zoning Project (Package-08); Client: Ministry of Land, Bangladesh; Funded By: Government of Bangladesh (GoB)

- Developed a Python tool using arcpy, os, sys, and codecs to validate cadastral map datasets with multiple feature classes, efficiently checking millions of attributes and exporting detailed error reports.
- Created a Python script to populate fields with Bangla numerals converted from English numerals and conditionally fill multiple fields based on defined criteria.
- Built a Python tool to automatically retrieve and add related raster and vector feature classes in ArcMap based on a cadastral map's judicial number, applying desired symbology within seconds.
- Designed an ArcGIS ModelBuilder workflow to identify and minimize topological errors, including overlapping features, dangles, pseudo nodes, and polygon gaps.
- Processed cadastral datasets for 5+ upazilas (100–500 sheets each), performing georeferencing, spatial adjustment, mosaicking/joining, and edge matching for accurate spatial integration.
- Developed and refined Land Use/Land Cover (LULC) maps for 3 upazilas through field surveys and ground-truthing to ensure precise representation of actual land patterns.
- Automated the production of 10,000+ cadastral layout maps with Python and VB, exporting maps from geodatabases to JPEG and PDF with correct symbology, legends, fonts, and layout for high-quality visualization.

Development Design Consultants Ltd.

Dhaka, Bangladesh
Feb 2022 - Jul 2023

GIS Analyst

Name of Project: Mouza and Plot Based National Digital Land Zoning Project (Package-06); Client: Ministry of Land, Bangladesh; Funded By: Government of Bangladesh (GoB)

- Digitized 2,000+ cadastral map sheets in ArcGIS Desktop and designed ArcGIS File Geodatabases to manage point, line, and polygon feature classes with comprehensive attribute data for geospatial analysis.
- Applied ArcGIS geoprocessing tools (clip, buffer, dissolve, merge, intersect, union, split, spatial join etc.) to refine and validate geospatial datasets.
- Ensured data accuracy through topological error checks and quality validation, addressing overlaps, gaps, and pseudo nodes.
- Conducted ground truthing to validate Land Use/Land Cover (LULC) classifications via field surveys and detailed data collection.

Education

Jahangirnagar University

Savar, Bangladesh
2023 – 2024

MS in GIS for Environment and Development (Professional)

Jashore University of Science and Technology (JUST)

Jashore, Bangladesh
2016 – 2021

B.Sc. (Hons.) in Environmental Science and Technology (3.68/4 CGPA – First Position)

Skills

GIS

- ArcGIS Pro
- ArcGIS Desktop
- QGIS
- Leaflet
- PostgreSQL
- Mapbox
- PostGIS
- GDAL
- Google Earth Engine
- ERDAS IMAGINE

Programming Languages

- Python (ArcPy, GeoPandas, Shapely, Plotly, Tkinter, Codecs, Flask)
- JavaScript . jQuery
- HTML . CSS. Bootstrap
- Structured Query Language (SQL)
- PHP, Visual Basic

Others

- Anaconda
- Jupyter Notebook
- VS Code
- Pycharm
- GitHub