

M. MASHRUR ZAMAN

GIS, Remote Sensing & Photogrammetry Specialist | Independent Consultant

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PROFESSIONAL SUMMARY

Independent GIS, Remote Sensing & Photogrammetry consultant helping engineering, infrastructure, and mapping teams turn drone, LiDAR, and imagery data into production-ready geospatial deliverables. Experience spans large-scale multi-municipality drone survey programs, international utility/cadastral digitization, and emerging GeoAI applications including 3D reality capture and AI-based imagery classification. Manages the full pipeline end to end: flight planning, processing, QA/QC, and delivery.

CORE SERVICES

Drone/UAV Photogrammetry & Ortho mosaic Production • LiDAR Processing & Terrain Modeling • GIS/Cadastral Digitization & Georeferencing • GeoAI (3D Reality Capture, AI-Based Classification) • Web-GIS & 3D Visualization

PROFESSIONAL EXPERIENCE

Independent Consultant — GIS, Remote Sensing & Photogrammetry

April, 2024 – Present | Remote (Dhaka, Bangladesh)

- Processed orthophotos, DSMs, DTMs, and DEMs across 20+ municipalities for a national drone survey program, including a ~400,000-image dataset for a single municipality; built and operate a multi-machine Metashape processing pipeline
- Ongoing georeferencing and vectorization of utility cadastre maps (water, electric, gas, telecom, district heating) for an international infrastructure client
- Delivered a 211-mile USGS-standard corridor strip map and field navigation sheets for a U.S. transportation infrastructure client
- Executed 3D reality capture and Gaussian Splatting reconstruction for a heritage-documentation client, and AI-based plant health classification from drone imagery for a precision-agriculture client
- Building GeoAI automation capability: GPU-accelerated workstation, SAM-based building footprint extraction, land cover classification

GIS Expert — Image Research and Consultancy Limited

January 2021 – April, 2024 | Dhaka, Bangladesh

- Planned and executed UAV missions; processed imagery in Pix4Dmapper and Agisoft Metashape into orthomosaics, DSMs, DTMs, and dense point clouds
- Designed GCP frameworks and led QA/QC for spatial accuracy across projects
- Built Web-GIS dashboards and 3D visualizations for client project tracking and delivery

GIS & Remote Sensing Analyst — Tiller Bangladesh

October 2019 – January 2021 | Dhaka, Bangladesh

- Processed UAV imagery into orthomosaics; performed spatial analysis in ArcGIS and QGIS
- Built Kobo Toolbox field data collection forms and integrated field survey data with GIS datasets

TECHNICAL SKILLS

Photogrammetry/UAV: Pix4Dmapper, Agisoft Metashape, DroneDeploy

GIS & Remote Sensing: ArcGIS, QGIS, ERDAS Imagine, Global Mapper

Programming: Python (rasterio, GDAL, geopandas, PDAL, LAStools), JavaScript, SQL/PostgreSQL

3D & Visualization: 3ds Max, SketchUp, Revit, Lumion

Field/Data Collection: Kobo Toolbox, Mergin Maps, QField

EDUCATION

M.S. (Ongoing), GIS for Environment & Development — Jahangirnagar University, Expected 2025

B.Sc., Urban & Regional Planning — Khulna University of Engineering & Technology (KUET), 2019

Research Assistant (Informal, Part-Time), GIS/Remote Sensing Research — KUET, 2015–2019 (~6–12 months during undergraduate studies)