Aditya Kumar Jha

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Summary

Geoinformatics and spatial analytics professional with strong hands-on experience in GIS, GNSS data processing, Remote Sensing, and Python-based automation. Contributed to national-level geospatial infrastructure development under the NSRF Project through CORS Network for high-precision positioning and defense research initiatives at DRDO involving flood risk assessment, LiDAR analytics, and spatial decision support. Proven ability to convert complex geospatial datasets into actionable insights for infrastructure planning, disaster risk reduction, and urban development. Seeking an entry-level global consulting role in geospatial and location intelligence domains.

Skills

Programming	Python (ArcPy, Pandas, NumPy, laspy, Spetral Python, Rasterio, Geopandas)
Spatial Databases & Data Management	PostgreSQL, PostGIS, GeoJSON, GDAL/OGR, KML, ShapeFile, RINEX
GIS Software & Tools	ArcGIS, QGIS, ENVI, Erdas Imagine, Pix4dMapper, GeoServer,
Remote Sensing & AutoCAD Analysis	Remote Sensing, UAV/Drone Mapping, LiDAR, Google Earth Engine, DWG, DXF
GNSS Data Processing	Gamit/GlobK, Pride PPP-AR

Work Experience

Survey of India

June'25 – Present
Dehradun, India

- Implemented automated GNSS data acquisition and preprocessing pipelines using Python, reducing manual data processing time by 12 hours weekly, enabling faster high-precision coordinate derivation.
- Processed multi-day GNSS datasets using **GAMIT/GLOBK** and **PRIDE PPP-AR** to derive high-precision station coordinates with centimeter-level accuracy in static and kinematic modes.
- Performed quality control and validation of GNSS observations, including **cycle slip detection**, **data completeness checks**, and **satellite geometry assessment**.
- Collaborated with a team of **5 geodetic engineers** to standardize data collection protocols across **1023+ GNSS reference stations**, stream lining workflows and accelerating project timelines.
- Developed **batch-processing** (365 days data) of multiple Stations for workflows of GNSS data to reduce manual intervention and improve processing efficiency for long-term observational datasets.
- Collaborated with geodetic and research teams to analyze GNSS results, interpret **positioning accuracy**, and document processing methodologies for operational use.

DRDO-Ministry of Defence, Govt. of India (GIS Research Intern)

July'24 – Dec'24
Chandigarh, India

Flood Risk Mapping & Spatial Analysis:

- Performed flood risk mapping using **QGIS** by analyzing terrain and elevation-based spatial layers to identify flood-prone areas above 1M if Sea level rise.
- Integrated and analyzed 5+ geospatial layers (terrain, elevation, drainage-related layers) to identify **flood-prone** and **vulnerable zones**.
- Prepared multiple **thematic flood risk maps** and **spatial visualizations** to support regional flood assessment and interpretation for research use.

LiDAR & Hyperspectral Data Analysis:

- Analyzed high-density LiDAR point cloud data containing ~**3 million (30 lakh) points** using library **Spectral Python** to study terrain characteristics and surface features.
- Developed **Python scripts** for preprocessing and filtering large **LiDAR and hyperspectral datasets**, improving data handling efficiency and analysis workflow.
- Generated analytical outputs and visualizations from LiDAR and hyperspectral data, supporting terrain interpretation and environmental analysis tasks**.**

Education

B.Tech: GeoInformatics **2021-2025**
Netaji Subhas University of Technology (NSUT) Delhi, India

Core Subjects: Geographic Information Systems (GIS), Remote Sensing, GNSS, Photogrammetry, Digital Image Processing, Cartography, GNSS, Environmental Engineering, Python

Certifications

- ArcGIS Pro Specialist (Esri Training)
- Certified in Spatial Data Analysis with Google Earth Engine (CEPT University)