

Yamama Amir

mya6569@nyu.edu | linkedin.com/in/yamamaamir | github.com/Yamamaamirr

EDUCATION

New York University, Tandon School of Engineering

Master of Science in Urban Data Science

New York, NY

Sep. 2026 – Expected May 2028

National University of Sciences and Technology (NUST)

Bachelor of Engineering in Geoinformatics Engineering

Islamabad, Pakistan

Nov. 2021 – Jun. 2025

EXPERIENCE

GIS Engineer

Earthbound AI

Sep. 2025 – Aug. 2026

San Francisco, CA (Remote)

- Primary developer of two geospatial products: a hydraulic cross-section dashboard and 3D pipeline viewer
- Built a 3D river cross-section viewer in React Three Fiber rendering terrain and channel geometry
- Georeferenced 3D GLTF terrain models onto Mapbox using Mercator model matrices from footprint corners
- Built FastAPI and DuckDB services over GeoParquet on S3, filtering to the map viewport server-side
- Added a file-backed DuckDB cache of materialized tables, cutting API cold start to ~1s

Geospatial Software Engineer

Adgile Media Group

Jan. 2023 – Aug. 2023

New York, NY (Remote)

- Built a real-time fleet platform tracking 500+ commercial vehicles, rendering 10,000+ GPS coordinates per hour
- Ingested live GPS from Flespi over MQTT into PostGIS, with an HTTP webhook mode for stateless Cloud Run
- Deployed OSRM on GCE to map-match raw GPS traces to roads, served to the map as vector tiles
- Built a React and Mapbox GL dashboard with live markers, route playback, and fleet health metrics

PROJECTS

MTA Transit Disruption Assistant | *Python, PostGIS, pgvector, GTFS*

- Built a natural-language assistant over MTA GTFS and service-alert data
- Implemented a RAG pipeline chunking and embedding historical service alerts into pgvector for similarity search
- Exposed PostGIS spatial queries as model-callable tools via function calling
- Built an annotated evaluation set to compare chunking and retrieval strategies on correct-source retrieval

Solar PV Site Suitability Analysis | *ArcGIS Pro, AHP, SRTM, Sentinel-2*

- Evaluated utility-scale solar PV siting for a district in Pakistan using GIS multi-criteria analysis
- Weighted seven criteria including slope, irradiance, land cover, and grid proximity
- Derived criteria weights from an AHP pairwise comparison matrix and validated the consistency ratio

Candidate Site Detection Engine | *Python, GeoPandas, Shapely, GeoParquet, GDAL, QGIS*

- Built a pipeline over 20+ datasets scoring ~125K greenfield and 6.6K reuse data-center sites in five states
- Recalibrated composite weighting after 78% of reuse sites saturated at max score
- Raised contaminated-vs-clean site separation from 3.9 to 18.3 points
- Wrote 95+ automated schema, geometry, and formula checks to verify pipeline output

TECHNICAL SKILLS

Languages: Python, JavaScript, SQL, C++

Geospatial: ArcGIS Pro, ArcGIS API for JavaScript, ArcGIS Python API, QGIS, PostGIS, GeoPandas, GDAL, GeoServer, MapServer, Mapbox

Frameworks: React, Next.js, Node.js, Express, Flask, FastAPI, NestJS, PyTorch, TensorFlow

Databases: PostgreSQL, DuckDB, pgvector, MySQL, Firebase

Developer Tools: Git, Docker, AWS, Google Cloud, RESTful APIs