Mina Narmar

GIS Data Engineer | Remote Sensing · Geospatial Machine Learning

PhD Candidate in Environmental Science

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PROFILE

Geospatial data engineer with 5+ years of experience and a PhD candidate in environmental science. At work I build web mapping applications with React, OpenLayers and Leaflet, publish data through GeoServer and MapServer, and design PostgreSQL/PostGIS databases. My doctoral research uses machine learning to forecast air pollution from satellite, ground-station and weather data.

SKILLS

Geospatial & Remote Sensing

- **GIS Software:** QGIS, ArcGIS Pro, ArcGIS Online, Hexagon GeoMedia, M.App Enterprise
- **Remote Sensing:** SNAP (ESA), ERDAS IMAGINE, Google Earth Engine (GEE)
- **Web Mapping & Geospatial APIs:** Leaflet, OpenLayers, GeoServer, MapServer
- **Spatial Databases:** SQL, PostgreSQL / PostGIS

Programming & Development

- **Languages:** Python, JavaScript
- **Front-End:** React, Angular, Material UI, Redux, HTML, CSS
- **Version Control:** Git, GitLab
- **Cloud:** AWS
- **Project Management:** Jira

CAD, BIM & 3D Modeling

- **CAD & BIM:** AutoCAD, Revit, OpenBuildings Designer
- **Photogrammetry & Point Clouds:** ContextCapture, Descartes, CloudCompare
- **3D Modeling:** MeshLab, Meshmixer, Blender

PROFESSIONAL & RESEARCH EXPERIENCE

ViaGIS, *GIS Data Engineer* — 06/2022 – 07/2026, Vilnius, Lithuania

- **Built and maintained web mapping applications** in **React** and **Material UI** on top of **OpenLayers** and **Leaflet**, so users could browse and query geospatial data.
- **Published spatial data layers** through **GeoServer** and **MapServer** and connected them to the web applications.
- **Designed and built PostgreSQL/PostGIS databases** for complex spatial data.
- **Ran geospatial modelling and spatial analysis** on environmental and geographic data.
- **Standardized and validated GIS datasets** against project specifications so they stayed accurate and worked across systems.
- **Administered and troubleshot** GIS applications and tuned them for performance.

Vigo University, *Research Intern, Department of Natural Resources and Environmental* — 03/2026 – 06/2026, Vigo, Spain

Project: *AI-Based Environmental Data Modelling and Validation*

EDGE Pro for Information Systems, *GIS & Remote Sensing Engineer* — 03/2020 – 09/2021, Cairo, Egypt

Website: edge-pro.com | mped.gov.eg

Project: National Spatial Data Infrastructure (NSDI) for Egypt's *Ministry of Planning and Economic Development*, Cairo.

- **Processed and analyzed remote sensing data** for the ministry's planning decisions.
- **Developed spatial data layers** for the national SDI.
- **Documented and implemented administration procedures** for the spatial system, covering performance and data integrity.

AIESEC, *Volunteer* 07/2018 – 09/2018
- Ran youth and environmental-education sessions. Craiova, Romania

EDUCATION

Vilnius Gediminas Technical University (VILNIUS TECH), *PhD Candidate, Environmental Science* 2023 – 2027, Vilnius, Lithuania
Thesis: "Predictive Modeling for Air Pollution Forecasting: Integrating Machine Learning, Remote Sensing, and Geospatial Analysis"

VILNIUS TECH & Riga Technical University, *M.Sc. Innovative Solutions in Geomatics (Joint Degree)* 2021 – 2023, Vilnius, Lithuania / Riga, Latvia
Thesis: "Analysis of satellite image classification using different algorithms", including artificial intelligence algorithms.

Cairo University, *Bachelor of Civil Engineering* 2014 – 2019, Cairo, Egypt

PUBLICATIONS

A Sensitivity Analysis of Data Imputation in Daily PM_{10} Prediction, *M. A. S. Fahim, J. Sužiedelytė Visockienė* 2026
Mokslas – Lietuvos ateitis / Science – Future of Lithuania, Vol. 18. https://doi.org/10.3846/mla.2026.26975

An Assessment of the Multi-Input Spatiotemporal RF–XGBoost Hybrid Framework for PM_{10} Estimation in Lithuania, *M. A. S. Fahim, J. Sužiedelytė Visockienė* 2026
Sustainability. https://doi.org/10.3390/su18042022

Satellite-Driven Monitoring and Prediction of Atmospheric Nitrogen Dioxide in Lithuania, *M. A. S. Fahim, J. Sužiedelytė Visockienė* 2025
10.18178/IJESD, ICEEA Paris, France.

Assessing AI Algorithms for Predictive Modeling of Spatiotemporal PM_{10} Air Pollution, *M. A. S. Fahim, J. Sužiedelytė Visockienė, R. Grubliauskas* 2025
28th Conference for Junior Researchers „Science – Future of Lithuania"

A Comparative Analysis of Machine Learning Techniques for PM_{10} Forecasting in Vilnius, *M. A. S. Fahim, J. Sužiedelytė Visockienė* 2024
ICEMSR 2024, Prague, Czechia.

Air Pollution Sources and Their Impact on the Environment, *M. A. S. Fahim, J. Sužiedelytė Visockienė* 2024
27th Conference for Junior Researchers „Science – Future of Lithuania"

Air Quality and Environmental Health: Evaluating Pollution Sources and Mitigation Strategies, *M. A. S. Fahim, J. Sužiedelytė Visockienė* 2024
Poster - Faculty of Chemistry and Geosciences, Institute of Chemistry, Vilnius University: Conference dedicated to the 100th birthday of geology professor Juozas Paškevičius. Vilnius, Lithuania

AI-Based Satellite Image Classification: An Analysis of Different Algorithms on PlanetScope and Sentinel Imagery, *M. A. S. Fahim, J. Sužiedelytė Visockienė* 2023
26th Conference for Junior Researchers „Science – Future of Lithuania"

Characteristics and Dynamics of the Latvian, Lithuanian, and Egyptian Marine Cadastre, *J. Kaminskis, L. Neimane, M. A. S. Fahim, K. Jankunas, I. Stamure* 2022
FIG Congress 2022, Warsaw, Poland.