

GUL NAWAZ

GIS Expert



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English and Urdu



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Islamabad, Pakistan

EDUCATION

**PMAS ARID AGRICULTURE
UNIVERSITY RAWALPINDI.**

BS Geo Informatics (Gold Medalist)

NUST ISLAMABAD, PAKISTAN.

MS RS & GIS (2024- Continue)

SKILLS

Geospatial & GIS

- Geographic Information Systems (GIS)
- Remote Sensing & Image Processing
- Web GIS Development
- 2D & 3D Spatial Mapping
- Cadastral Mapping & Land Records
- Network Planning & FTTH Design
- Urban Planning & Smart Cities
- Spatial Data Analysis & Visualization

Web & Backend Development

- Python (FastAPI, Flask, Django)
- JavaScript (Leaflet, Mapbox GL JS, OpenLayers)
- RESTful API Development
- Spatial Web Services, Geo Server (WMS, WFS, REST APIs)
- Data Ops & ETL Pipelines

Databases & Cloud

- PostgreSQL / PostGIS
- Spatial Database Design
- SQL Optimization for Geospatial Data

GIS Software & Libraries

- ArcGIS Pro
- QGIS
- Google Earth Engine
- Raster & Vector Data Processing

AI, ML & Advanced Analytics

- Deep Learning for Geospatial Analysis
- Spatial Machine Learning Models
- Satellite Image Classification

Professional & Leadership Skills

- Technical Writing & Documentation
- Leading & Managing GIS Projects
- Cross-Functional Team Collaboration
- Strong Communication & Client Coordination

PROFILE

I am a GIS Developer and Expert with strong experience in developing web-based GIS applications, spatial backends, and interactive mapping solutions.

I specialize in Python-driven geoprocessing, spatial databases, and API-based GIS services, delivering scalable, accurate, and production-ready geospatial systems.

WORK EXPERIENCE

1) CYBERNET-ODN Department, Islamabad, Pakistan June 2025 – Present

GIS Specialist

Responsibilities:

- Designing and updating FTTH (Fiber to the Home) network layouts using GIS tools.
- Managing and maintaining geospatial data for fiber infrastructure including ducts, cables, and equipment.
- Supporting feasibility checks, network expansion analysis, and Right of Way (ROW) documentation.
- Integrating field survey data (geo-tagged) into centralized GIS systems and ensuring spatial accuracy.
- Utilizing Python for automation of spatial workflows and implementing enterprise-level geodatabases for centralized, multi-user data access and management.
- Generating technical maps, thematic layouts, and reports for planning and operations teams.

2) R2V Private Ltd, Rawalpindi, Pakistan.

August 2023—March 2024

GIS Analyst

Projects: **1. GIS based Land mapping of Balochistan, Pakistan**

2. Spatial mapping and analysis of Quetta Safe City.

Responsibilities:

- Scaling, mosaicking, and geo-referencing of handcrafted maps.
- Digitizing, mapping and managing land records parcels data.
- Arcpy for automation.
- Geocoding camera poll points and performing quality checks for data accuracy.
- Managing data integration and final reporting.

WORK EXPERIENCE

2) Green age Services, Islamabad, Pakistan.

April 2021—July 2023

GIS Assistant

Project : State Land mapping of Punjab Pakistan.

Responsibilities:

- Manage data sets using GIS databases
- Downloading high-resolution images; mosaicking and geo-referencing.
- Handle and map state land parcels, roads, and water features.
- Handling datasets using GIS databases, merging final data.
- Identification of built-up areas and agricultural lands on satellite images.
- Using Python for automation and data analysis.

3) Freelancer

March 2021—Continue

Doing Short- and long-term GIS and remote sensing projects

Developed multiple end-to-end Web GIS and geospatial applications, including a precision agriculture web app that integrates spatial data processing and interactive mapping to support farm-level decision-making, and a radio link planner application for line-of-sight analysis, distance calculation, and network feasibility assessment. I have built a hazard risk identification system using fuzzy logic, combining spatial inputs to support decision-making under uncertainty, and developed web-based data and geoprocessing tools that automate spatial workflows through Python-based backends and REST APIs. My portfolio also includes interactive dashboards such as an air pollution monitoring dashboard for spatio-temporal analysis of environmental data and an undersea cable visualization dashboard for route analysis and spatial asset management. Across these projects, I focus on scalable geospatial architectures, efficient spatial databases (PostGIS), API-driven services, and interactive web mapping for real-world applications.

COURSES - PROFESSIONAL DEVELOPMENT

GIS:

- Getting Started with GIS by ESRI
- Putting GIS into Work by ESRI
- Developing and Planning Green Infrastructure by ESRI
- ARC GIS: GEO PLANNER: Evaluating Plans by ESRI
- Land in Focus – Urban Spaces by European Space Agency
- Using Remote Sensing to Protect Cultural Heritage by Durham University, British Council, Leicester and Oxford Universities.
- The Requirements of Active and Passive Satellite Data Analysis for Water-related Applications - UN University
- Mitigating & Adapting to Climate Change Impacts and Environmental Degradation-PCRWR

Programming:

- Fundamentals of Python by TDRA Virtual Academy
- Python for Everyone by ESRI
- Pandas – Kaggle
- Computer Vision- Kaggle

Data relevant:

- Getting Started with Data Management by ESRI
- Data Analysis with SQL: Inform a Business Decision – Coursera
- Python for Data Analysis: Pandas & NumPy – Coursera
- Data Visualization using tableau- Great Learning Academy
- Data Visualization using Power BI- Great Learning Academy

Other Relevant Courses:

- Using Advanced SWOT Analysis to Determine Competitiveness – Coursera
- Chat GPT in Smart Learning - HBMSU
- Fundamentals of Digital Marketing by Google
- Buildings AI solutions by TDRA virtual academy
- Introduction to virtual, augmented and mixed reality - Lancaster university and Institute of coding
- Self-Management Skills by TDRA Virtual Academy