

Hafizullah Sarwary - CV

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PERSONAL INFORMATION

Name	Hafizullah Sarwary
Date of Birth	05.Jul.1994
Marital Status	Married
Adress	Via varese 37, 20025, Italy

EDUCATION

10/2023 – Now	POLIMI – Politecnico di Milano, (Milan, Italy) Master's degree (Geoinformatics Engineering) Focus Area (GIS-Programming, SQL-Geodatabases, WebGIS, GIS Analysis, Photogrammetry and Remote sensing)
01/2011 – 06/2015	KPU – Kabul Polytechnic University, (Kabul, Afghanistan) B.Sc. (Geodesy Engineering) Focus Area (Topography Surveying, Geodesy, GIS, CAD, and Civil 3D)
03/2008 – 12/2010	HHS– Habibia High School, (Kabul, Afghanistan) 12 Grade Graduation Certificate (General) Focus Area (Mathematics, Physic, Chemistry, Geology, Geography, trigonometry)

WORK EXPERIENCE

03.2019 – 07.2023	Geographic Information System Expert (Full Time) Government Funded Projects Implementation Unit DABS-PIU, Kabul, Afghanistan Lead the GIS unit for Afghanistan's energy sector. Built and maintain a national energy/electricity geodatabase covering transmission lines, substations and distribution networks across 34 provinces; converted CAD/Civil3D data to GIS and UTM; coordinated with sector stakeholders; established update standards; delivered GPS/GIS trainings and technical recommendations. Tasks <ul style="list-style-type: none">- Established and led the GIS team for collecting, managing, and analyzing geographic and survey data for Afghanistan's national energy system.- Collected, unified, and analyzed geospatial data from Breshna Company and other energy departments.- Created and maintained a national geodatabase for transmission lines, substations, power plants, and distribution networks across 34 provinces.- Converted and integrated data between AutoCAD/Civil3D and GIS formats, including coordinate transformations (UTM ↔ geographic).- Designed and regularly updated maps of existing and planned electricity networks and renewable energy sources.- Coordinated with government and energy agencies to ensure data accuracy and consistency.- Provided GPS and GIS training for technical staff to support field surveys and mapping tasks.- Delivered technical recommendations and documentation related to GIS, Remote Sensing, and CAD tools.
02.2018 – 03.2019	GIS/Survey Engineer (Full-time) World Bank Funded Projects Unit WB- PIU along with) DABS (Kabul, Afghanistan)

Tasks

- Collected geographic data analyzed the data and maintained projects location and geographic information in geo-database and provided referenced map with global coordinate system (WGS) and UTM standard format.
- Developed geo-database, prepared a set of base Maps and developed GIS products support MIS and design team before and during implementation of the project.
- Performed Geo-referencing, image classification, hydrology studies, and water supply system development.
- Prepared topographic map, slope maps, shade maps, country maps, provincial maps, District maps.
- Synchronized the Esri file with the google earth for presentation and easy use by another team member.
- Provided short term training program in GPS, Total station, GIS, CAD, Civil 3D and Data collection.
- Performed topographic surveying, prepared maps, plans and profile of grid network.

09/2016 – 02/2018

GIS/Survey Engineer (Full-time)

Donor Funded Projects Unit USAID (G to G) DABS (Ghazni, Afghanistan)

Tasks

- Collected geographic data analyzed the data and maintained projects location and geographic information in geo-database and provided referenced map with global coordinate system (WGS) and UTM standard format.
- Developed geo-database, prepared a set of base Maps and developed GIS products support MIS and design team before and during implementation of the project.
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- Synchronized the Esri file with the google earth for presentation and easy use by another team member.
- Provided short term training program in GPS, Total station, GIS, CAD, Civil 3D and Data collection.
- Performed topographic surveying, prepared maps, plans and profile of road network.

01/2015 – 09/2016

CAD-Draftsman (Full-Time)

East Power Engineering Services (Kabul, Afghanistan)

Tasks

- Responsible for all GIS and Auto CAD related works and layouts.
- Sync/Downloading SRTM data and analyses that through GIS and AutoCAD civil3D
- Studied deferent alternative railway network and provided hydrology studies for each individual culvert.
- Prepared complete package of Land use Land cover map for the project area.
- Initiate automated image classification and performed estimation for impacted lands.
- Supported designer and defined data for preliminary design of structures and culverts.

LANGUAGE AND SKILLS

Language Skills	- Persian (Native)	English (Fluent)	Italian (Basic /A2)	Dutch (Basic /A1)	Pashto (Fluent)	Hindi/Urdu (Speaking/B1)
Software-Skills	- Q-GIS - ArcGIS Pro - Enterprise GIS - AutoSHUD/rSHUD - AutoCAD / Civil 3D - Microsoft Office - GPS, survey 123	(Expert) (Expert) (Intermediate) (Intermediate) (Intermediate) (Expert) (Expert)	- FME and Automation - SQL/PostGIS - Google Earth Engine - HTML/CSS/JS - Survey machines - Python (geo/pandas, rasterio) - Adobe Photoshop/Illustrator	(Basic) (Intermediate) (Intermediate) (Basic) (Intermediate) (Intermediate) (Intermediate)		

RESEARCH AND PROJECTS

- 2025 (ongoing) : GeoCleanr – Python Library for Geospatial Data Cleaning.
(Course Project – Politecnico di Milano)
Developing an open-source Python package that detects, fixes, and reports geometry and CRS errors in geospatial datasets, integrating GeoPandas, Shapely, and automated validation workflows.
- 2025 : Soil Texture Classification using Sentinel-2 & Landsat-9
(Course Project – Politecnico di Milano)
Applied machine learning for soil mapping in Semnan, Iran, using Python and GIS tools.
- 2025 : Flood Risk & Damage Assessment using SHUD & Earth Observation
(Course Project – Politecnico di Milano)
Integrated SHUD model with Sentinel data to simulate floods and assess insured asset damages for Unipol.
- 2025 : SE4G – Smart Environment for Green Growth (Lombardy, Italy)
(Course Project – Politecnico di Milano)
Developed an interactive air quality dashboard with real-time data, statistics, and role-based access.
- 2024 : Landslide Susceptibility Mapping – Northern Italy
(Course Project – Politecnico di Milano)
Created a WebGIS for visualizing landslide risk maps using QGIS, GeoServer, and web layers.
- 2024 : Urbanization of Kabul (2001–2024)
(Course Project – Politecnico di Milano)
Analyzed satellite imagery with QGIS and ML to map urban growth and land-use change.
- 2024 : Environmental Change Detection – Kabul
(Course Project – Politecnico di Milano)
Calculated NDVI, NDWI, and temperature indices using Google Earth Engine for multi-temporal analysis.
- 2024 : Standard Point Positioning using Least Squares
(Course Project – Politecnico di Milano)
Processed GPS data and applied least-squares adjustment for precise geodetic positioning.
- 2019 : Transmission Line Survey & GIS Mapping – DABS (Afghanistan)
(Professional Project)
Led survey, mapping, and terrain analysis for power transmission and substation projects.