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
- 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.
- 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 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	English	Italian	Dutch	Pashto	Hindi/Urdu
		(Native)	(Fluent)	(Basic /A2)	(Basic /A1)	(Fluent)	(Speaking/B1)

Software-Skills					
-	Q-GIS	(Expert)	-	FME and Automation	(Basic)
-	ArcGIS Pro	(Expert)	-	SQL/PostGIS	(Intermediate)
-	Enterprise GIS	(Intermediate)	-	Google Earth Engine	(Intermediate)
-	AutoSHUD/rSHUD	(Intermediate)	-	HTML/CSS/JS	(Basic)
-	AutoCAD / Civil 3D	(Expert)	-	Survey machines	(Intermediate)
-	Microsoft Office	(Expert)	-	Python (geo/pandas, rasterio)	(Intermediate)
-	GPS, survey 123	(Expert)	-	Adobe Photoshop/Illustrator	(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.