Makhlouf Rajeb

GIS Consultant

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Summary

GIS Consultant offering thirteen plus years' experience in GIS& Remote sensing technologies involving understanding of geospatial industry trends in both software and data. Consistently drives high standards of service through effective project management, communication, and strategic planning to develop sustainable and robust applications. Highly organized with strong capacity to prioritize workload, delegate deliverables, and steer project completion within established deadlines. Creative problem solver and experience in designing geospatial web solution.

Core Competencies

- Design and develop GIS web application
- Spatial database management
- Geostatistical analysis and spatial autocorrelation.
- Satellite Image Processing including: Radiometric, atmospheric and geometric correction, image fusion and classification (supervised & unsupervised).
- Land cover mapping and time-series analysis.
- Geoprocessing automation.
- CAD drawing enrichment with maps, background imagery, and geographic features.
- GIS Data Integration & Conversion
- Spatial data catalog and metadata creation and editing.
- Geospatial Data science and data engineering
- Data visualization-based python libs and R.
- Quality assurance checks on GIS systems
- Agile Mindset
- Data-driven decision making
- Time management

Key Skills

- **GIS desktop**: ArcGIS desktop, ArcGIS Pro, QGIS.
- **RS / EO Tools:** Erdas Imagine, Envi, Metashape.
- **CAD:** MicroStation, AutoCAD map 3D
- **ETL:** Safe FME, Talend Spatial, GeoKettle.
- **Database:** PostgreSQL/PostGIS, Ms SQL Server, My SQL
- **Spatial data Science:** Carto, R, GeoPandas, GDAL/OGR, Folium, Pandas, Matplotlib, osmnx, Rasterio, RSGISLib, PyProj, Folium, Fiona
- **GIS Web:**
  - **Open source**: Geoserver, QGS server, OpenLayers, Leaflet, Mapbox GL JS, GeoNetwork, GeoNode.
  - **Esri Products**: ArcGIS server, ArcGIS Portal, ArcGIS Datastore, ArcGIS online, ArcGIS Web AppBuilder.
- **Programming & scripting:** Python, PHP, JS, Jquery, Flask, Fast API, Vue JS.
- **Cloud:** AWS EC2, S2 and RDS.
- **Project management Tools:** Jira, Bitbucket, Git, Gitlab.

Work experience

- **GIS Consultant –** Freelancer

  🏢 IT Geospatial
  📅 07/2020 – Present

  Key Responsibilities:
  - Created several GIS interactive maps to overlay geospatial data.
  - Performed GIS project and Cartographic map design.

- Provided coordination and technical support as needed.
- Managed and complete projects in a timely fashion.
- Summarized data and statistics for principal investigators.
- Developed ArcGIS scripting tools based to ArcPy.
- Provided a training and technical support in QGIS.
- Big data query inserts into spatial database.
- Created a Dynamic map layout with custom template in QGIS

Project	**Development of ArcGIS Pro Tools based to ArcPy to analyse the transportation plan of Wisconsin State, USA**
Country	USA
Year	2022
Responsibilities	- Create an ArcGIS Tools Based to ArcPy and pandas - Tabular data cleaning using pandas datatime and other libs - PostgreSQL Query handling
Environment	ArcGIS Pro, ArcPy, Pandas, DateTime, xlrd, ArcGIS Notebook etc.
Project	**Sherbrook Bicycles Accident Analysis**
Country	Canada
Year	2022
Responsibilities	Create a Python Scripts That analyse Collision data in Sherbrooke to determine: - Total accidents per year. - Total cyclist accidents per year. - Total cyclist accidents per day. - Total accidents near bike path (100 m). - Track section where the most accidents happen near it.
Environment	GDAL/OGR, CSV Module
Project	**Montreal Crime Analysis (2015-2022)**
Country	Canada
Year	2022
Responsibilities	Create a Python Scripts That analyse Crime data in Montreal to determine: - Which neighborhoods recorded the highest crime incidents. - What part of the day did most crime incidents occur. - Which neighborhood has the highest cases of murder crime. - Which police stations (PDQ) got the most crime complaints. - Which police stations (PDQ) got the least crime complaints.
Environment	Geopandas, shapely, PyProj, Calendar, Pandas, Matplotlib, Numpy, datatime,
Project	**Migration of an existing GIS solution based on GeoExt to OpenLayers and performance improvement**
Country	Norway
Year	2020
Responsibilities	*GIS Technical assistant:* - Optimization of the Spatial database - Platform migration from GeoExt to Openlayers6 - Improvement of map rendering: Creation of vector tiles, Clusters etc.
Environment	GeoExt, OpenLayers, Geoserver, ArcGIS server, PostgreSQL/PostGIS

- **Regional Sourcing Specialist**
  - IT Geospatial
  - 07/2019 – 06/2020
  - **Key Responsibilities:**
    - Conducted competitor bench marking analysis and identified savings opportunities.
    - Developed and maintained effective supplier relationships for data sourcing operations.
    - Established and maintained ongoing relationship with existing and potential providers/partners.
    - Researched, assessed and acquired any type of information for the creation and maintenance of TomTom map databases.
    - Performed quality checks and GIS task with ArcGIS Pro and FME.

- ▪ Provided support in maintaining local intelligence to keep track of major competition movements.
- ▪ Provided support in maintaining meta-information about many countries (Tunisia, Libya, BFA, RDC, Chad)
- ▪ Identified local sales opportunities and geospatial technology companies.

• **GIS Specialist**

▦ ST2I – Groupe STUDI
🗓 05/2009 – 06/2019

Key Responsibilities:
- ▪ Designed and developed GIS application for various enterprises and business units
- ▪ Prepare and execute workflows and geoprocessing models using Python
- ▪ Work closely with GIS team members in ongoing development and implementation of standards for day-to-day GIS processes and data management.
- ▪ Assist the team in improving data management and analysis processes across the division by taking part in presentations and training activities.
- ▪ Troubleshooting issues with system performance and functionality, performing root-case analysis, and driving issues to resolution.
- ▪ Perform implementation processing and quality assurance/control.
- ▪ Performed troubleshooting, technical support and assistance for clients.

Project name	Establishment of Early Warning System (EWS) and a risk management room in the municipality of Ain Drahem
Year	2019
Country	Tunisia
Customer	UNDP/ Commune of Ain Drahem
Responsibility	GIS Developer: Spatial database design, configuring metadata using GeoNetwork, Creating an Interactive GIS web Application
Keys	Geoserver, OpenLayers, GeoNetwork, PostGIS, Risk, Metadata
Project name	Analysis of vulnerability and disaster risk management capacities in Tataouine
Year	2018-2019
Country	Tunisia
Customer	UNDP/ADELPHI/ Commune of Tataouine
Responsibility	GIS developer: Spatial database design, Building an interactive Web GIS Application
Keys	Geoserver, OpenLayers, PostGIS, Risk
Project name	Electricity Network Reinforcement and Expansion Project
Year	2018
Country	Niger
Customer	NIGELEC-World Bank
Responsibility	GIS Expert: Spatial database design and Implementation, Electricity Network planning, Cost analysis
Keys	Geometric Network, GIS, database, Maps, feasibility study
Project name	Establishment of Single Window system to facilitate the issuance of administrative acts relating to land use and construction
Year	2017
Country	Cameroon
Customer	Urban Community of Douala
Responsibility	*GIS developer*: Integrating CAD data into GIS Database, Building Web GIS Solution
Keys	CAD, Geoserver, PostGIS, OpenLayers

Project name	**Development of the National Territory Zoning Plan of Cameroon**
Year	2016
Country	Cameroon
Customer	MINEPAT
Responsibility	*GIS Specialist*: Land Cover Classification based to Landsat Imagery, Quality Control, geodatabase design
Keys	GIS, Satellite Image Classification, Land Cover, ArcGIS, ERDAS, Google earth,
Project name	**Development of land registration and management to improve the business climate and living environment of the population (PAMOCCA)**
Year	2015-2016
Country	Cameroon
Customer	MINDCAF
Responsibility	*GIS Specialist:* ▪ Digitizing Cadastral data and integration into Database ▪ Ddevelopment of Urban Master Plans (PDU) of Garoua and Maroua
Keys	Cadastral, database, Data Integration, QC
Project name	**Establishment of a national geographic information system for the environment**
Year	2015
Country	Tunisia
Customer	Ministry of Environment and Sustainable Development
Responsibility	*GIS developer*: Environment Data Inventory, Spatial database design and implementation. Building the Environmental geoportal
Keys	PostGIS, QGIS, ArcGIS, OpenLayers, GeoExt, Geoserver, GeoNetwork
Project name	**Tunisia Population and Housing Census 2014**
Year	2013-2014
Country	Tunisia
Customer	National Institute of Statistics
Responsibility	*GIS Specialist*: Exhaustive inventory of Customer Data, Spatial database design and Enterprise Geodatabase implementation
Keys	Geodatabase Enterprise, Statistical breakdown, ArcGIS
Project name	**Here Maps Updating**
Year	2009-2013
Country	Spain, Italy, France, South Africa, MENA (Morocco, Tunisia, UAE, SA, Kuwait)
Customer	Here Technologies (Formerly Naveq)
Responsibility	*Subject Mater Expert -Geographic Analyst*: ▪ Monitoring and assisting mapping team. ▪ Quality control for the data to be delivered. ▪ Preparing sample-based test methodologies of digital map databases to measure accuracy, inclusion and consistency to generate quality metrics. ▪ Field data Collection.
Keys	Road Navigation, Traffic Sign, ADAS, Field Data Collection

Education &Training

- **Professional Master Degree in Geomatics:**
  🏛 Tunis El Manar University – Faculty of Sciences of Tunis
  📅 09/2010 – 06/2012

- **Diploma of University Studies:**
  🏛 Tunis El Manar University – Faculty of Sciences of Tunis
  📅 09/2005 – 06/2008

Language Skills

- **Arabic:** Native
- **English:** Proficient
- **French:** Fluent

References

Will be furnished upon request