JOSEPH GYEGYIRI

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WORK EXPERIENCE

Florida Atlantic University, Boca Raton, Florida   Jan 2023 – Present
Graduate Research Assistant
- Incorporated GIS technology with hydrologic modeling to predict potential flood areas based on storm events across Florida.
- Created high quality maps and conducted geospatial research for the CENTER FOR WATER RESILIENCY AND RISK REDUCTION
- Processed LiDAR-derived topographical data, employed regression analysis to model groundwater behavior, conducted multispectral image classification to identify impervious surfaces, computed soil storage capacities, and effectively utilized Arc Hydro for drainage routing and infrastructure integration within ArcGIS Pro.
- Generated an in-depth flood risk report along with accompanying appendices to present the project's findings comprehensively.

Denys Engineers, Accra, Ghana   Nov 2022 – Jan 2023
Surveyor
- Produced a Digital Elevation Model (DEM) for underground pipe installation utilizing drone technology and GPS data.
- Generated a road profile by utilizing GPS technology.
- Established Ground Control Points (GCPs) for all survey activities conducted on-site.

EGSO COMPANY LIMITED, Tarkwa, Ghana   Jan 2022 – Sep 2022
Junior Surveyor
- Co-supervised all cadastral and topographical surveys.
- Drafted cadastral plans for clients using AutoCAD.
- Mentored interns.

AngloGold Ashanti Iduapriem Limited, Tarkwa, Ghana   Sep 2020 – Aug 2021
Graduate Mine Surveyor
- Revised excavation plans and employed Surpac and Datamine software to compute the extracted material volume from mining operations.
- Performed ore mark-out, drilling holes design and mark-out, boundary and farm demarcation.
- Used UAV to comprehensively document engineering projects both within and outside the company.
- Collaborated with diverse departments to expand my understanding of various mining operations.

PROJECTS

Watershed Master Project (ArcGIS Story Map) – Click here to access the app.
- Developed an ArcGIS story map showing the progress of my graduate research duties at the Center for Water Resiliency and Risk Reduction at Florida Atlantic University.

Automatic Satellite Image Segmentation App – Click here to access the app.
- Developed a satellite image segmentation app using U-Net to train the Dubai datasets. The app can segment images into 6 classes: buildings, land, roads, vegetation, water, and unlabeled. The app is hosted on Hugging Face with Gradio, making it easy to use and share.

Level 2 Electric Vehicle Charging Stations (Dashboard) - Click here to access dashboard.
- Designed and implemented an ArcGIS dashboard featuring Level 2 Electric Vehicle (EV) charging station mapping and analytics across the United States. Leveraged geospatial data and advanced GIS tools to provide a comprehensive visualization of EV infrastructure, enhancing accessibility and usability for planning and decision-making purposes.

PUBLICATIONS & PRESENTATIONS

Presentation: Using deep learning to automatically detect building damage from high resolution remotely sensed images. Presented my work at the South Florida GIS Expo (August 2023). Details here

AWARDS & HONORS

United States Geospatial Intelligence Foundation Scholarship.
Leidos Scholarship for AI/ML Advancement (2023-2024 cohort). Details here

EXTRA CURRICULAR ACTIVITIES

Vice President
American Water Work Association, FAU student chapter   September 2023 – Current
Volunteering with Open Street Humanitarian Mapping team in Ghana, 2022

EDUCATION

Florida Atlantic University, *Boca Raton, Florida*   Expected May 2024
Degree: Master of Science in Civil Engineering (Conc. Transportation/Geomatics)   GPA: 4.0 / 4.0

Kwame Nkrumah University of Science and Technology, *Kumasi, Ghana*   Aug 2020
Degree: Bachelor of Science in Geomatics Eng.   GPA: 3.65/4.0

TECHNICAL SKILLS

Programming:	Python, R, SQL (PostgreSQL,), MATLAB.
GIS Software/Web:	ArcGIS Pro, ArcMap, ArcGIS Online, QGIS, Leaflet, PostGIS, ArcGIS Experience Builder & Dashboard.
Remote Sensing Software:	ENVI, ERDAS IMAGINE, PCI Geomatica, Google Earth Engine
AI & Analytics:	Data analysis & visualization, machine learning & deep learning (Image Classification), Statistical analysis.
Data Collection:	Total Station, levelling instrument, all GPS types, UAV, Laser scanners.
Data Processing:	AutoCAD, Civil 3d, Pix4d mapper, Surpac, Trimble business center, Microsoft Word, Excel, PowerPoint.
Human Relations:	Good Communication, Team Work, Multi-tasking.

Professional Membership

- **USGIF - ESRI YPN   - ITE (student member) – FSMS (student member)**