

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.

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

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.

ArcGIS Experience Web map Showing Historic Natural Disasters – [Click here to access map.](#)

- Designed and deployed an interactive ArcGIS Web-map featuring historic Earthquake and Hurricane stations, complete with dynamic 2D and 3D visualization capabilities. Developed functionalities for path tracing of hurricanes and seamless toggling between disaster categories for in-depth spatial analysis. Features are symbolized based on Hurricane speed and Earthquakes magnitude.

Atlanta Crime Data Analysis – [GitHub](#)

- Conducted extensive geospatial analysis on Atlanta crime data spanning 2009-2020, uncovering significant trends and insights. Employed data visualization techniques to create a comprehensive crime density map, enhancing understanding and aiding decision-making processes." [Click here for the Density map](#)

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](#)

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: 3.64/4.0

TECHNICAL SKILLS

Programming: Python, SQL, MATLAB.

GIS Software/Web: ArcGIS Pro, ArcGIS 9.3-10.7, 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: Autodesk Civil 3d, Pix4d mapper, Surpac, Trimble business center, Microsoft Word, Excel, PowerPoint.