Junior Flores

Geospatial data engineer

CONTACT

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ABOUT ME

Data Engineer specialized in **GIS and geospatial data processing** with over **4 years of experience** in designing, developing, and optimizing **real-time data pipelines**, satellite image processing, and automating ETL workflows. Experienced in **Big Data, Machine Learning, cloud services (AWS/GCP)**, **and geospatial application development**. Recognized for implementing custom algorithms for geospatial analysis and developing high-impact platforms used by government institutions and international organizations.

PROFESSIONAL EXPERIENCE

Geospatial Data Engineer | Geo Compas AI

2024 – Present

- Implemented **real-time data pipelines** for vehicle tracking using **Kafka and AWS Lambda**.
- Developed a real-time monitoring interface and a client application for location streaming.
- Built applications using **PostGIS, Python and ReactJS** for geospatial data visualization.

Geospatial Data Engineer | Developmentseed

2019 – 2024

- Developed and optimized **cloud-based ETL processes** for geospatial data processing using **Airflow and Docker**.
- Created tools for **Machine Learning** in GIS, including training data generation from satellite images.
- Implemented custom algorithms for raster data transformation and georeferencing.
- Contributed to **OpenStreetMap**, including developing advanced plugins for **JOSM**.
- Presented projects and advancements at international conferences such as **State of the Map and Mapping USA 2022.**

Backend & GIS Developer | Freelance

2018 – Present

- Developed **APIs and geospatial web applications** using **Mapbox, Leaflet, Geodjango, and OpenLayers**.
- Automated GIS workflows with **Python, Bash, and Docker**.
- Created **web scraping and backend processing** for geospatial data analysis.

HIGHLIGHTED PROJECTS

Real-Time Vehicle Tracking

- Designed and implemented an **ETL process for real-time vehicle tracking** using **Kafka**.
- Developed an **admin interface** for monitoring vehicle movements.
- Built a **client application** enabling users to send and visualize live locations.
- Technologies: **Kafka, AWS Lambda, PostGIS, ReactJS, Python, Docker, Socket**.

HIGHLIGHTED PROJECTS

AtlasArena

- Platform for modeling **Arenavirus distribution** based on Species Distribution Models **(SDMs).**
- Technologies: **GIS, Python, ReactJS, Docker, Mapbox**.
- web app: https://atlasarena.surge.sh/explore

Peru Schools App

- Application for **mobile signal** coverage analysis in **Peruvian educational institutions**.
- Technologies: **ReactJS, Python, Mapbox, Docker, GDAL, Bash, AWS.**
- web app: https://developmentseed.org/peru-mobile-signal-schools/

Urban Public Services Inaccessibility

- Tool for analyzing population distribution and access to basic services.
- Technologies: **ReactJS, Python, Mapbox, Docker, GDAL, Bash, AWS, OpenStreetMap.**
- web app: https://yunica.dev/mapfest_mapmaking_challenge_2024/

Rubber Risk Mitigation Platform

- Platform for mitigating risks in the sustainable development of natural rubber.
- Technologies: **ReactJS, Python, Mapbox, Docker, GDAL, Bash, AWS.**
- web app: https://cccmc-sustainable-rubber.surge.sh/explore

SAM Plugin – JOSM

- Integration of **Segment Anything Model (SAM)** into the **OpenStreetMap** ecosystem.
- Technologies: **Java, JOSM, OpenStreetMap, Gradle, OpenCv**.
- plugin app: https://josm.openstreetmap.de/wiki/Plugins

TECHNICAL SKILLS

Programming Languages

- Python, JavaScript, Java, SQL

Geospatial Processing & Analysis

- GDAL, PDAL, PostGIS, QGIS, Google Earth Engine
- GeoJSON, COGs, STAC, Shapefiles, TIFFs, GeoParquet

ETL and Data Orchestration

- Apache Airflow, Kafka, Docker, AWS Lambda, GCP Cloud Functions
- Real-time Data Pipelines, Distributed Computing, Scalability

Geospatial Application Development

- ReactJS, NextJS, NodeJS, Flask, FastAPI, GeoDjango, Mapbox, Leaflet, OpenLayers

Cloud Computing & DevOps

- AWS, GCP, CI/CD, Docker

EDUCATION

Systems Engineering

- Universidad Nacional de San Cristóbal de Huamanga (2012 – 2018)
- Self-taught certifications in **AWS, GCP, PostgreSQL, Python, GIS, Airflow, Big Data, and Machine Learning.**