John Dilger

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Technical Skills

Languages: Python, SQL (Postgres), JavaScript, HTML/CSS, R
Developer Tools: Git, Docker, Google Cloud Platform, VS Code
Libraries: NumPy, Geopandas, Rasterio, GDAL, Altair, earthengine-api
GIS: QGIS, ESRI, GDAL/OGR, Google Earth Engine, SNAP

Experience

Sr. Data Scientist 2022 – 2024
Astraea *Remote - Austin, TX*

- Developed production analytics for road segmentation, forest loss, construction monitoring, and substation identification. Tech: Python, PyTorch, GDAL, Docker
- Developed 20+ pipelines for ML batch prediction, ETL, and model training. Tech: Metaflow, Argo, Docker, Python
- Developed internal tools for managing and updating data science databases. Tech: Python, Postgresql/PostGIS
- Improved query time for utility owned property analytic. Reduced query time from 25 minutes to 2 seconds for parcel table spanning 155MM records. Tech: Postgresql/PostGIS

Geospatial Data Scientist 2018 – 2022
Spatial Informatics Group *Remote - San Francisco, CA*

- Created insights and automated workflows for forest carbon monitoring, restoration planning, and forest monitoring reporting and validation. Tech: Google Earth Engine, Python, GIS, SQL
- Researched and developed geospatial applications using computer vision for areas of crop mapping, invasive species detection, and illegal gold mining. Tech: Tensorflow, Google Earth Engine, Python, Google Cloud Platform
- Created ETL pipelines for batch data ingestion/export from Google Earth Engine. Tech: Python, Google Storage, Google Earth Engine
- Manage IAM and resources for the Environmental Mapping team. Tech: Google Cloud Platform

Geoinformatic Fellowship 2017 – 2018
NASA DEVELOP National Program - SSA *Moffit Field, CA*

- Served as point of contact for GIS -ArcMap, ENVI, QGIS-, remote sensing, and scripting -Python, JavaScript- needs for 50 NASA DEVELOP project teams as part of a 3 person team.
- Directly collaborated with Ames Research Center DEVELOP project teams processing multispectral remotely sensed imagery -Landsat, RapidEye, Sentinel-2- and supporting geospatial analysis.
- Managed software release process of 5 project teams.
- Managed NASA DEVELOP Google Earth Engine repository and helped manage NASA DEVELOP GitHub.

Earth Science Contractor *2017*
LiDAR and Geospatial Analyst Volunteer 2016 – 2017
University of San Francisco Geospatial Analysis Lab *San Francisco, CA*

Projects

Se.plan | *Python, Google Earth Engine, ipyvuetify* June 2020 – Present

- Application for planning forest restoration activities based upon user constraints, restoration goals, and cost for low and middle-income countries.
- Developed core code for analysis and dashboard using Google Earth Engine Python API.
- Assisted in front-end development using Jupyter notebooks, Voila, and Ipyvueify.
- Application is hosted on the U.N. Food and Agriculture SEPAL platform

Post Fire Vegetation Monitoring Plumas County | *Python, Google Earth Engine, Django* May 2018 – May 2020

- This system provides land managers systematic updates for areas burned by wildfire, including changes in vegetation cover on a yearly cadence from 1984 onward.
- Wrote image preprocessing and analysis using Google Earth Engine Python API.
- Maintained and updated front-end Django website over 2 years.

- Landcover classification was done using a random forest, trained on multi year features, and had an R^2 of 0.87.

Spooky Maps | *Python, Flask, Postgres/PostGis, SQLAlchemey, Google Maps API* May 2018 – May 2020

- Developed a full-stack web application using Flask serving a REST API with a Bootstrap frontend.
- Web map for viewing ghost sightings.My goal with this project was to gain hands-on experience with web GIS frameworks and to make a fun map by using underutilized visualization customizations such as cute ghost markers as icons and a spooky gray, purple and green color schema for the vector basemap tiles.

Education

University of San Francisco San Francisco, CA
Bachelor of Science in Environmental Science *2013 – 2016*

University of San Francisco San Francisco, CA
Graduate Geospatial Technology Certification *2016*