Gail Hobbs

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GEOSPATIAL DEVELOPER

Developer in service of an environmentally-informed public, creating tools improving and empowering access to data attached to sustainability initiatives. Building at varied organizational levels internationally, my experience ranges from a United Nations office, to a remote startup, to local government. Proficient in Python, GIS, React, SQLAlchemy/ORMs, Docker, Azure. 3+ years of technical experience with frontend and backend development of web applications, 1 year of experience with Python for geospatial data processing, all working with dynamic teams on modern technical challenges.

TECHNICAL SKILLS

Languages	Python • TypeScript • JavaScript • HTML5 • CSS • PHP • C# • C / C++ • Java • R • Matlab
Frameworks	Flask • Django • Node.js • React • Redux • Recoil
Databases	PostgreSQL • SQL Server • SQLite • Oracle • Power BI • Excel
Libraries	ArcGIS REST APIs • PyTest • pandas • TensorFlow • scikit-learn • SQLAlchemy • Selenium
Infrastructure	Docker • Azure • Google Cloud Platform

EXPERIENCE

GIS Application Developer, Arizona Department of Water Resources Phoenix, Arizona • 1/2024 – Present

- Spearheaded development and deployment of seven new GIS applications in six months, importantly utilized by the state of Arizona for data on water rights, ground and surface water, recharge and recovery, and well registries. TypeScript + ArcGIS Experience Builder, Docker, Express.js
- Automated feature layer update workflows for water resource specialists with Python. ArcPy + python-oracledb
- Publicized software development patterns and resources to fellow developer professionals at GIS forum on Arizona's water supply as a key developer resource on Experience Builder Developer Edition for the state.

Frontend/React Developer, GBCS Group San Francisco, California • Remote • 5/2023 – 8/2023

- Enhanced, reviewed, and maintained code for the GBCS Group website and Aukai platform, handling marine fleet management (commercial ships and vessels) to support tracking of emission targets and repairs. TypeScript + Azure
- Collaborated in project management to oversee execution of project quality, cost, software maintenance, direction

IT Software Engineer, International Atomic Energy Agency UN Office, Vienna, Austria • 9/2021 – 8/2022

- Led rapid prototyping + built proof-of-concepts for web application development, tested feasibility/scalability of new software using React.js, .NET, SQL, Jupyter notebooks, CKAN (open source data management system) to advance clientele's innovation objectives
- Developed and deployed scalable applications with Azure using CI/CD and managed frontend work on apps for timely product delivery
- Strengthened Power BI reporting and database management on SQL Server for emergency reporting services

Data Science Research Intern, Qualcomm Institute at UCSD UC San Diego • 9/2019 – 3/2020

- Disseminated research on machine learning model creation for impact measurement on NGO environmental initiatives
- Presented analytics on map with Python + pandas to formalize NGO impacts in developing countries by gender

TECHNICAL PROJECTS

Arizona Department of Water Resources' GIS Applications - Well Registry | Community Water Systems | AAWS | GFR
Development lead on GIS applications built with TypeScript frontend and Node.js REST API for agency-specific workflows.

Cesium Development for IAEA Data Platform - Site | Demo
Full-stack application developed for testing integration with International Atomic Energy Agency's data platform API.

- Implemented functionality for viewing platform-connected data on top of additional marine layer data with React + CKAN for data queries, deployment and YAML pipeline via Azure

Temperature Anomalies Visualizer - GitHub | Demo
GUI application visualizing + animating 2°×2° grid temperature anomalies on country capitals with NASA data, 1880-2023.

- Mastered QT and Folium-Leaflet library in two days time in order to utilize GUI and map tools in application

EDUCATION

Mathematics-Scientific Computation, Bachelor of Science, BS, University of California, San Diego, 2020
Software Engineering, Flatiron School, 2023