Gail Hobbs

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GEOSPATIAL SOFTWARE DEVELOPER

Geospatial software engineer dedicated to advancing an environmentally informed public by building tools that improve and empower access to GIS data. Building at varied organizational levels internationally, my experience ranges from a UN office, to remote startups, to local government. Currently developing and administering ArcGIS Enterprise 11.x in both on-premises and cloud environments (AWS, Azure). Skilled in Python geospatial processing, web application development (React/TypeScript), Infrastructure-as-Code automation, and spatial database management.

TECHNICAL SKILLS

GIS/Spatial	ArcGIS Enterprise • ArcPy • ArcGIS API for Python • ArcGIS Maps SDK for JavaScript
Languages	Python • TypeScript • JavaScript • HTML5 • CSS • Java • Ruby • R • C / C++
Infrastructure	Amazon Web Services • Microsoft Azure
DevOps/Automation	GitHub Actions • Azure DevOps • Docker • Chef • Infrastructure-as-Code • PowerShell
Frameworks/Libraries	Node.js • Flask • Django • React • Redux • Recoil
Databases	PostgreSQL • SQL Server • Oracle • SQLite • SQLAlchemy

EXPERIENCE

Geospatial Systems Engineer, Langan Engineering   Phoenix, Arizona • 6/2025 – Present
- Managed and optimized ArcGIS Enterprise 11.5 deployments across on-premises, AWS, and Azure environments, ensuring high availability and secure, scalable GIS services.
- Automated full-stack upgrades to the latest ArcGIS Enterprise release using Infrastructure-as-Code (Chef) and PowerShell DSC, eliminating manual configuration drift and improving deployment speed.
- Engineered Python, PowerShell, and shell scripts to streamline routine administration and maintenance tasks, reducing manual effort and error rates across multiple client environments.

GIS Developer, Arizona Department of Water Resources   Phoenix, Arizona • 1/2024 – 6/2025
- Led development of [seven production GIS applications](#) in six months for the Arizona Department of Water Resources, providing statewide access to critical water-rights, surface/ground-water, recharge, recovery, and well-registry data. *(TypeScript, ArcGIS Experience Builder, Docker, Express.js)*
- Streamlined data-update workflows for water-resource specialists by automating Oracle-based ETL processes with Python and ArcPy, cutting manual update time by over 50%.
- Introduced containerization and DevOps practices by designing and deploying reusable Docker images for Experience Builder applications, enabling rapid, consistent application builds and reducing environment drift across development and production.

Frontend/React Developer, GBCS Group   San Francisco, California • Remote • 5/2023 – 8/2023
- Modernized and optimized the [GBCS Group website](#) and [Aukai](#) marine-fleet management platform, improving performance and user experience for tracking vessel emissions and maintenance. *(TypeScript, React, Azure)*
- Partnered with project management to define scope, control costs, and ensure on-time delivery of new features.

IT Software Engineer, International Atomic Energy Agency   UN Office, Vienna, Austria • 9/2021 – 8/2022
- Prototyped and delivered Azure-hosted web applications to evaluate scalability of new data platforms, using React, .NET, SQL, and CKAN for rapid proof-of-concepts supporting international scientific projects.
- Automated QA testing for nuclear emergency reporting application [USIE](#) with Selenium/Python, increasing defect detection and reducing manual test time.
- Developed a field-data mobile app adopted by the Plant Breeding and Genetics Laboratory, improving collection and tracking of disease-resistant plant data.

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](#)
Integrated IAEA's marine radioactivity data application with [new data platform](#) API. *(React, Cesium, CKAN, Azure DevOps)*

EDUCATION

Mathematics-Scientific Computation, Bachelor of Science, BS, University of California, San Diego, 2020