JOHN SOLLY

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SENIOR SOFTWARE ENGINEER

Senior Software Engineer with over ten years of experience building cloud-native geospatial solutions. Adept at architecting geospatial infrastructures, implementing geospatial algorithms, and leading full-stack development. Experienced in collaborating with cross-functional teams to deliver mission-critical capabilities and driving technical decisions and best practices.

Professional Experience

Software Engineer (Expert)   Mar 2025 — Present
Social Security Administration | Baltimore, MD (On-site)

Tech Stack: COBOL, AWS, Postgres, Kafka, React

- Architected SSA's Enterprise Ticketing System, integrating IBM TRIRIGA, ServiceNow, and in-house ticketing systems using an AI-driven unified service request system.
- Developed a centralized reporting system aggregating ticket statuses from multiple sources, powering an 'at-a-glance' open tickets dashboard for SSA executives' strategic decision-making.
- Supported other engineers on initiatives including Digital SSN, Death Master File cleanup, and SSN verification API (EDEN 2.0).

Geospatial API Engineer | HazardHub   July 2024 — Mar 2025
Guidewire Software | Remote

Tech Stack: AWS, Terraform, Ruby (Rails), Python, Argo, PostGIS, Kubernetes

- Manage and scale API requests, processing millions of dollars and supporting 80% of US insurance companies, using AWS services like Lambda, EC2, and RDS.
- Process terabytes of data through ETL workflows hosted on K8 clusters, ingesting formats like CSVs, geopackages, and shapefiles, transforming them into low-cost object storage, NoSQL, and SQL databases.
- Own several end-to-end features in a Ruby on Rails monolith, following test-driven development (TDD) and collaborating within an agile team to release code regularly.

Senior Software Engineer   Sept 2023 — July 2024
New Light Technologies (NLT) | Remote

Tech Stack: Vue.js, Terraform, AWS, TypeScript, Python, PostGIS

- Led strategic adoption of a cloud-native AWS tech stack with Terraform for scalable geospatial solutions at New Light Technologies.
- Developed serverless applications for projects including Vietnam's Low Carbon Emissions Planner and US Census Bureau's Government Spending App

Senior Geospatial Developer   Sept 2022 — Sept 2023 (Contract)
University of Maryland | Remote

Tech Stack: AWS, FastAPI, Filecoin, Python, TypeScript, MongoDB

- Led the adoption of decentralized, cloud-native infrastructure at UMD's EASIER Data Initiative, leading a team of four engineers in building geospatial data solutions on blockchain-managed systems like Filecoin and IPFS to support efficient, scalable data storage.

Integration Consultant   May 2021 — Feb 2022
Yellowfin Business Intelligence (Acquired by Idera, Inc) | Remote

Tech Stack: Java, AWS, TypeScript, Postgres

- Expertly designed and implemented innovative data solutions leveraging Yellowfin's REST, SOAP, and JavaScript APIs. Successfully orchestrated a major two-version upgrade for Yellowfin's largest ISV, enhancing system capabilities and performance.
- Addressed and resolved dozens of complex level-three production issues in cloud, on-premise, and hybrid environments, diligently maintaining Yellowfin's uptime and availability within the bounds of our Service Level Agreements (SLAs).

Software Product Engineer   May 2017 — May 2021
Environmental Research Institute (Esri) | Redlands, CA (On-site)

Tech Stack: AWS, JavaScript, Ember.js, Python

- Over four years, I successfully managed numerous <u>ArcGIS Dashboard</u> releases as release manager and scrum master for a nine-engineer team. My role involved ensuring consistent, high-quality releases and effectively coordinating with internal product management, QA, localization, internationalization, and release teams to ensure seamless integration.

Additional Areas of Expertise

Languages: Python, TypeScript, JavaScript, Golang, SQL/NoSQL, Shell/Bash, Java

Web Development: Vue, Svelte, Astro, React, Django, Node.js, Tailwind, IPFS, SQLAlchemy

DevOps & Cloud: AWS (CloudFormation, AWS Bedrock, Serverless Architecture), Terraform, GitHub Actions, Docker, Kubernetes, MongoDB, PostgreSQL, Cloud Computing, Automation, CI/CD

AI & Machine Learning: TensorFlow, PyTorch, Scikit-learn, OpenAI, Large Language Models (LLM), Geospatial Algorithm Development

Geospatial Technologies: Esri, ArcGIS, Mapbox, GDAL, GeoPandas, PostGIS, GeoServer, Dask, Turf.js, Deck.gl, OpenLayers, Leaflet, Visualization Tools & Libraries

Software Engineering & Practices: Test-Driven Development (TDD), Pair Programming, Unit Testing, Agile, Rapid Prototyping, Quality Assurance, Release Coordination, Technical Writing, Cross-Functional Leadership, Technical Mentorship

Database Management & ETL: SQL Performance Tuning, Database Management, Data Warehousing (Star Schema), ETL Pipeline Architecture, Migration & Upgrade Planning

API Development & Security: RESTful APIs, SOAP, JavaScript APIs, Security & Production Issue Resolution, User Authentication & Profile Management

Education

- **Master of Science in Geospatial Intelligence**
  George Mason University — 2015-2017 — GPA: 3.93
- **Bachelor of Arts in Geoinformation Science**
  University of California, Santa Barbara — 2013-2015 — GPA: 3.85