# 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

### Health-IT CTO                                                Oct 2025 — Present

*Leidos | Reston, VA (Remote)*

Tech Stack: AWS, Azure, Google Cloud, TensorFlow, PyTorch, Scikit-learn, Python, TypeScript

- Define and execute the technical vision and strategy for Leidos' Health IT solutions, aligning with business objectives, market trends, and civilian health needs at agencies like SSA, HHS, CMS, and NIH.
- Lead development of innovative, scalable solutions in digital modernization, integrating AI/ML, cloud computing, data analytics, and cybersecurity to enhance interoperability, EHR systems, and cost-efficiency.
- Provide technical leadership in business development, proposal support, and capture efforts, building relationships with stakeholders to secure new opportunities while overseeing architecture, risk mitigation, and compliance with standards like HIPAA and FISMA.

### Software Engineer (Expert)                          Mar 2025 — September 2025

*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