

Summary

Senior full-stack software engineer with experience building scalable, production-grade web applications. Strong background in system design, performance, and delivering reliable products in complex, data-driven environments.

Work Experience

Team Lead Senior Software Engineer	GeoTech Cairo, Egypt	Apr 2024–Present Jun 2022–Apr 2024
- Leading the web engineering team delivering production-grade GIS applications and spatial analysis workflows. - Driving architecture decisions across frontend, backend services, and cloud infrastructure on GCP. - Introduced shared development foundations and modern tooling to improve consistency and delivery velocity. - Contributed hands-on as a senior engineer, delivering complex, data-driven features and critical user workflows. - Mentoring engineers and partnering with product and stakeholders to deliver scalable, reliable systems.		
Full-Stack Developer	Opleg Remote	Nov 2020–Jul 2021
- Built and maintained core features of a cloud-based legal practice management platform used by law firms to manage cases, deadlines, and documents. - Worked across the stack using the MERN ecosystem, contributing to frontend, backend services, and data modeling. - Owned end-to-end feature delivery, from database design and REST API development to user-facing interfaces. - Led refactoring efforts to improve usability, performance, and overall product experience.		
Full-Stack Developer	IAC Kaksha – E-Learning Platform	Feb 2020–Oct 2020
- Built a full-stack platform with Node.js, Express, React, React Native, and AWS, improving accessibility and engagement. - Designed DB schemas and RESTful APIs, integrating payment and subscription services. - Delivered features end-to-end from requirements to deployment.		
Pico – Research Academy Platform(Canada)		
- Developed a web platform using Node.js (Express) and EJS to support remote academic workflows. - Handled full lifecycle: client requirements → user stories → DB design → app development. - Ensured platform reliability, maintainability, and scalability.		

Education and Certifications

● B.Sc. Computer Science , KFS university.	2015–2020
● InnovEgypt program intern , (Innovation & Entrepreneurship).	2018

Technologies and Languages

- Languages: JavaScript, TypeScript, Go, Python, Ruby.
- Technologies: HTML, CSS, React.js, Shadcn, Redux, Zustand, SvelteKit, Node.js, Express.js, Nest.js, MongoDB, MySQL, PostgreSQL, Rails, AWS, GCP, Git, Docker, Kubernetes, Bash, Linux.
- Other: Data structures and Algorithms.

Projects

Meridian

- Pure-Go WMS 1.3.0 map server in a single binary — a no-JVM, no-CGO GeoServer alternative.
- Renders PostGIS and GeoJSON sources with R-tree indexing and pure-Go EPSG reprojection.
- Bounded worker-pool rendering and LRU caching, all configured through a REST API.

ButterflyDrop

- Built a zero-cloud, peer-to-peer file sharing PWA using WebRTC for fast, encrypted browser-to-browser transfers.
- Designed a minimal WebSocket signaling layer with ephemeral sessions, keeping all file data off the server.
- Delivered a lightweight, performance-focused UI with chunked streaming, subtle animations, and PWA support.

react-ol-choropleth

- Built and maintained an open-source React + TypeScript library for interactive choropleth maps using OpenLayers.
- Designed a flexible, strongly-typed API supporting custom color scales, legends, overlays, and map interactions.
- Optimized rendering and interactivity for GeoJSON-based spatial data, with documentation and live demos.

Orb

- Built a spatial 3D web browser in Go where open tabs are floating circles in space rather than rows in a bar.
- Used native system WebView engines instead of Electron for a lightweight, cross-platform desktop footprint.
- Paired a Three.js frontend with a Go backend handling tab lifecycle and thread-safe state over a custom IPC layer.

Datum

- Local-first sync engine running full PostGIS queries in-browser via PGLite/WASM, offline.
- Bounding-box subscriptions over WebSockets for live, partial spatial replication.
- Stateless Go bridge keeps logic in PostGIS SQL; shipped as the datum-sync npm package.