

# ZACK NELSON

Santa Rosa, CA | 707-360-8837 | [zacknelson15@gmail.com](mailto:zacknelson15@gmail.com)  
[zacknelson.dev](https://zacknelson.dev) | [linkedin.com/in/nelsonzack](https://linkedin.com/in/nelsonzack) | [github.com/nelson-zack](https://github.com/nelson-zack)

Full-stack software engineer and U.S. Marine veteran experienced in building secure, performant, and deployed web applications with React, FastAPI, and PostgreSQL. Skilled in local-first architecture, REST API design, and CI/CD automation. Proven ability to ship production-ready systems with strong code quality, analytics, and deployment pipelines.

## TECHNICAL SKILLS

**Languages:** Python, JavaScript, TypeScript, C++, SQL  
**Frontend:** React (Vite), Next.js, Tailwind CSS, Zod, Chart.js, react-virtuoso  
**Backend:** FastAPI, Node.js, REST APIs, GraphQL, Pydantic v2, API key auth  
**Databases:** PostgreSQL, SQLite, IndexedDB (local caching)  
**Tools/Platforms:** Docker, Git/GitHub, CI/CD (GitHub Actions, Render, Vercel), AWS (certification in progress)  
**Security Clearance:** Secret Security Clearance (Inactive, U.S. DoD)

## PROJECTS

### Job Log

React, FastAPI, PostgreSQL | [Demo](#) | [GitHub](#)

- Built full-stack job tracker with **local-first, three-mode architecture** using sessionStorage + IndexedDB for offline resilience
- Developed **secure REST APIs** with header-based API-key authentication and dotenv-managed secrets for controlled write access
- Achieved high-performance UX via **react-virtuoso virtualization**, memoized selectors, and Zod schema validation
- Added **analytics dashboards** and telemetry endpoints tracking per-mode trends with CSV/JSON export options
- Implemented **Pytest + Vitest suites** and multi-job **GitHub Actions CI/CD** pipelines for automated testing and deployment

### Job Radar

Next.js, FastAPI, PostgreSQL | [Demo](#) | [GitHub](#)

- Built full-stack job aggregator crawling Greenhouse ATS and curated GitHub feeds across 100+ companies with entry-level filtering
- Implemented FastAPI + PostgreSQL backend with ingestion metrics, CSV export, and admin endpoints; automated ingestion and deploys via **GitHub Actions CI/CD**
- Developed Next.js + Tailwind frontend with advanced filters, analytics dashboards, pagination, and robust error handling

### Commit Companion

Python | [PyPi](#) | [GitHub](#)

- Published Python CLI (1,300+ downloads) integrating with Git to auto-generate commit messages for consistent workflows
- Packaged with Flit and Git hooks, applying modern Python packaging for seamless installation and use

## EXPERIENCE

### Software Engineer (Contract)

Jan 2025 – May 2025

Cascade Stream Solutions

Santa Rosa, CA

- Collaborated with 3 engineers and client stakeholders to deliver YOLOv8 segmentation pipeline for hydrological modeling across 18k+ drone images
- Trained and tuned YOLOv8 models with accuracy gains over baseline; developed augmentation and cross-validation workflows to improve generalization
- Automated hydrological data extraction, reducing manual labeling needs and lowering reliance on costly geospatial platforms

### Math Tutor

2023 – 2024

Private Tutoring

Santa Rosa, CA

- Tutored 10+ students in algebra and calculus, delivering 100+ hours of personalized instruction and strengthening communication skills

### Military Police

2013 – 2018

U.S. Marine Corps

Okinawa, Japan & South Carolina

- Led and mentored 70 Marines with zero mission failures in high-pressure environments
- Managed systems safeguarding \$4M+ in assets with 100% accountability through disciplined processes and compliance

## EDUCATION

### B.S. in Computer Science, Magna Cum Laude

Sonoma State University, May 2025

GPA: 3.78 | Major GPA: 3.96

Rohnert Park, CA