

ZACK NELSON

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SUMMARY

Veteran software engineer focused on building polished, full-stack web apps and developer tools. Skilled in React, FastAPI, and PostgreSQL, with a strong track record of shipping real projects—from a job tracker with live analytics to an AI-powered Git CLI. Prior military leadership experience brings a disciplined, ownership-driven mindset to engineering teams.

TECHNICAL SKILLS

Languages:	Python, C++, JavaScript, TypeScript, SQL
Web Development:	React (Vite), FastAPI, Tailwind CSS, Axios, Node.js
Databases:	PostgreSQL, SQLite
Machine Learning:	PyTorch, TensorFlow, NumPy, Pandas, OpenCV
Tools & Platforms:	Git, GitHub, VS Code, Jupyter, Chart.js, Render, Vercel, Docker (familiar)
Secret Security Clearance (Inactive):	U.S. Department of Defense

PROJECTS

Job Log	React, FastAPI, PostgreSQL Demo GitHub
<ul style="list-style-type: none">– Full-stack job application tracker with analytics, tagging, and CSV export; used to track 100+ applications– Designed secure REST APIs with API key protection and integrated with a React frontend using Axios– Built dynamic trend visualizations with Chart.js and filtering tools to analyze job data momentum over time– Deployed responsive frontend (Tailwind CSS on Vercel) and backend (FastAPI + PostgreSQL on Render)	
Commit Companion	Python, OpenAI API GitHub
<ul style="list-style-type: none">– CLI tool that uses OpenAI's API to automatically generate Git commit messages from staged diffs– Supports Conventional Commits, customizable tone and formatting, and .env-based config for easy integration– Includes Git hook installer for seamless automation in local Git workflows	
Aerial Object Detection	YOLOv8, Python GitHub
<ul style="list-style-type: none">– YOLOv8-based object detection model for drone imagery classification used in environmental impact assessments– Configured CUDA-based parallel processing on a dual-GPU server via SSH, accelerating PyTorch training	

EXPERIENCE

Math Tutor	2023 – 2024
<i>Private Tutoring</i>	<i>Santa Rosa, CA</i>
<ul style="list-style-type: none">– Tutored high school and college-level math with an emphasis on structured problem-solving and logic; skills directly applicable to debugging and algorithms	
Photographer	2018 – Present
<i>Freelance</i>	<i>Santa Rosa, CA</i>
<ul style="list-style-type: none">– Built and ran a freelance photography business, managing technical workflows and mentoring 30+ clients—experience that sharpened process thinking and technical communication	
Military Police	2013 – 2018
<i>U.S. Marine Corps</i>	<i>Okinawa, Japan & South Carolina</i>
<ul style="list-style-type: none">– Led 70 Marines in high-stakes operational environments, fostering team cohesion, clear communication, and accountability, traits now applied to engineering teams– Managed logistical systems for \$4M+ in assets with zero failures, applying process-driven thinking that maps directly to building reliable software systems	

EDUCATION

Bachelor of Science in Computer Science, Magna Cum Laude	GPA: 3.78 Major GPA: 3.96
<i>Sonoma State University, May 2025</i>	<i>Rohnert Park, CA</i>