Alexander Herlan

Senior Software Engineer | DevOps & IT Manager

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Professional Summary

Senior software engineer with over 27 years of hands-on technology experience spanning software engineering, web design, database engineering, IT management, computer repair, and user experience design. My primary focus is full-stack web application development with Python and JavaScript.

Through professional roles, freelance work, and side projects, I have expanded my skills in DevOps, Docker, Kubernetes, cloud deployment, and resource management. Recent projects include membership platforms, Android applications with machine learning and AI, and financial technology. I continue to explore Web3 and emerging technologies, and I am seeking a software engineering role where I can build reliable applications and contribute across the development lifecycle.

Work Experience

Software Developer / Freelancer

Self-employed

June 2024 - Present

I develop web and mobile applications for long-term clients sourced through Upwork, agency partnerships, and professional referrals. Working directly with clients and distributed teams, I turn early-stage ideas and complex business requirements into production-ready software. I own projects from discovery and architecture through implementation, cloud deployment, feedback cycles, and ongoing support. Recent work spans membership management, AI-powered safety systems, and financial technology.

- IIPM.ie (April 2025 - March 2026)
  - Developed a membership platform for the Irish Institute of Pensions Management through an Upwork engagement, collaborating with an Australia-based agency and Daniel Steven.
  - Expanded an initial set of WordPress landing pages into a larger PHP and PostgreSQL platform supporting individual and organisational membership applications, qualification requirements, annual payments, monthly course-progress reviews, and downloadable PDF certificates.
  - Built an administrative portal with statistical dashboards for membership, onboarding, qualifications, payments, and course progress. Automated programme-timeline calculations, approved-leave handling, certificate issuance, and several previously manual documentation workflows.
  - Technologies: WordPress, PHP, PostgreSQL
- SafeSchoolz (June 2024 - June 2025)
  - Worked with David Gray, VP of Grays Communications in Los Angeles, to develop a safety platform that detects firearms and communicates potential incidents to first responders.
  - Built the Media Pipe and Aegis Android applications and integrated them with the existing .NET-based HeroEyez portal. Media Pipe detects firearms in device or IP-camera feeds; Aegis receives alerts with screenshots and a one-minute evidence clip, initiates a Twilio-powered call workflow, and forwards incident information to HeroEyez for monitoring and response coordination.
  - Evaluated YOLO before adopting TensorFlow Lite to improve object-detection accuracy within mobile hardware constraints. Trained and tested the model using more than 10,000 firearm images from Roboflow and custom-captured samples.

    - Completed the end-to-end alert workflow and deployed the application in June 2025. Broader commercial rollout was later paused because of market and regulatory constraints.
    - Technologies: Android, Java, Kotlin, object detection, TensorFlow Lite

- Equity Funding Source (April 2026 - July 2026)
    - Built a mortgage-lending platform for a Los Angeles-based mortgage-loan broker, using Preact for a lightweight frontend and Bun for the backend.
    - Analyzed United States mortgage and private-lending workflows, including the forms and information exchanged throughout the loan process, to support borrower applications, lender collaboration, administrative oversight, and secure document handling.
    - Deployed the platform on Cloudflare using Workers for server-side execution, D1 for relational data, Durable Objects for real-time messaging, and R2 for document storage. Used AI-assisted development with Codex to accelerate implementation and iteration while maintaining system stability.
    - Technologies: Preact, Bun, Cloudflare Workers, Cloudflare D1, Durable Objects, Cloudflare R2

Senior Software Engineer

Covius, LLC

Pompano Beach, FL

January 2022 - April 2024

At Covius, a nationwide real estate technology and holdings company, I contributed to the frontend and backend redesign of RealtyBid.com, an online real estate auction platform. The platform combined a REST API backend, a responsive JavaScript frontend, and asynchronous updates to provide users with real-time auction status. I also built internal tools for website administration and customer support.

- Contributed to the complete redesign of a major legacy website containing extensive historical data.
- Helped manage and adapt a legacy database to support the redesigned platform.
- Built a responsive web application frontend for desktop and mobile browsers.
- Refined the user experience with QA testers and business partners through iterative sprints and testing sessions.
- Developed frontend functionality using Angular and RxJS.

Software Engineer

SEAD Software

Delray Beach, FL

April 2021 - July 2022

At SEAD Software, I used Python and web development skills to build web applications and deliver business analytics for healthcare and legal clients. I also improved company-wide development operations with Azure DevOps and development pipelines to streamline team coordination.

- Designed and implemented Python code using the Google Cloud Vision API to recognize and digitally categorize physical laboratory documents.
- Developed a text messaging web application using the Twilio API to automate customer responses and generate leads for law firms.
- Maintained and implemented Amazon Web Services infrastructure to support multiple projects
- Implemented and trained staff on Microsoft Azure DevOps development platform infrastructure
- Maintained a large Git code repository for multiple clients

Director of IT

Clarity Diagnostics & Lab Solutions

Boca Raton, FL

September 2020 - January 2022

Managed IT operations and technology decisions for a medical testing laboratory and diagnostics test manufacturing business. Supported the company's expansion to work with organizations nationwide, including local and state governments. I also managed software quality control, deployment, and training for its sister company, SEAD Software.

- Implemented a physical keycard/badge access security system for the entire laboratory facility
- Implemented and maintained security standards for email and cloud-based applications in Google Workspace and Microsoft 365
- Maintained client-facing websites
- Expanded laboratory infrastructure and assisted with quality assurance testing of medical equipment
- Managed and instructed other IT staff in their daily responsibilities

Lead Developer

MyTap, aka Which Craft

Albuquerque, NM

January 2016 - April 2020

At this startup, I collaborated with a team of designers to build a craft beer recommendation engine using web scraping and natural language processing (NLP) of online beer reviews. This work introduced me to practical applications of machine learning and AI.

- Implemented a robust web scraper in Python using the Scrapy Python library
- Created a responsive web application frontend for mobile browsers
- Designed custom natural language processing code in Python to create craft beer flavor profiles based on adjective frequency in craft beer review text.
- Maintained a Django backend serving data from a PostgreSQL database

Production Support Specialist

TriCore Reference Laboratories

Albuquerque, NM

April 2013 - January 2017

Provided technology support to staff across multiple regional hospitals. Responsibilities included urgent password resets, troubleshooting healthcare applications such as Sunquest, retrieving patient medical records and diagnostic information, and monitoring systems for performance issues and errors.

- Solely monitored and supported the company production environment overnight, handling troubleshooting and escalation for an environment supported by 60 staff during the day.
- Monitored the transmission of patient records between hospitals using different medical record systems and healthcare applications.
- Guided medical staff through time-sensitive IT troubleshooting affecting patient care.
- Monitored critical hospital infrastructure for performance and errors, correcting them promptly.
- Trained new help desk employees on their daily tasks and responsibilities
- Remained on-call off hours for emergency assistance.

Technical Skills

Programming Languages

Python (Flask, Django), JavaScript (Node.js, jQuery, Angular, AngularJS, RxJS, Preact, Bun), TypeScript, Go, PHP, Java, Kotlin, C, C++, CoffeeScript, HTML5, CSS3, Sass

Database Technologies

- **SQL:** Microsoft SQL Server, MySQL Server, PostgreSQL Server
- **NoSQL:** MongoDB, CouchDB, Redis
- **Other:** Microsoft Access, Microsoft Excel

Applications

- **Programming:** Microsoft Visual Studio, Visual Studio Code, PyCharm, Sublime Text 3, Devart dbForge, Microsoft SQL Studio, Vim, Eclipse, Git
- **Design:** Adobe Photoshop, Adobe Dreamweaver, Adobe Illustrator, Adobe Edge, Adobe InDesign
- **Productivity:** Microsoft Office, Google Docs (Drive), WordPerfect Suite

- **Virtualization:** VMware, VirtualBox, Docker, Kubernetes

Cloud Technologies

- Microsoft 365 and Google Workspace Administration
- Amazon Web Services (AWS) Administration
- Microsoft Azure DevOps Administration
- Cloudflare Workers, D1, Durable Objects, and R2

Other

- Jira Agile Project Management skills
- Responsive web design
- Advanced (and remote) Linux administration
- Search engine optimization (SEO) for Google and Bing
- Social media presence implementation (Facebook, Twitter, Instagram, etc.)

Education

University of New Mexico

Certifications

- Beginning Programming in C++
- Intermediate Programming in C++
- Advanced Visual C++
- Beginning Visual Basic
- Intermediate Visual Basic

Central New Mexico Community College (aka TVI)

- Beginning Photoshop
- Intermediate Photoshop
- Advanced Photoshop
- Introduction to Lightwave 3D