

Neal Lawson

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Open to fully remote, part-time roles (W2 / 1099 / contract)

Professional summary

Senior software engineer, project leader, and Linux systems administrator. Designs, builds, and operates web applications for education, public health, and business workflows. Comfortable across frontend, backend, and infrastructure: browser-based applications and games, data-driven systems, and AI-powered tools. Works independently with stakeholders to take ideas from rough requirements to deployed, reliable production systems. Professional practice since 1987, from C in DOS and Unix through modern Linux, databases, Java, and TypeScript frameworks.

Recent work (2024–present) is solo game, AI, and web development using AI coding agents as a first-class part of the process. Before that, more than two decades delivering and operating production systems in public higher education and public health — including a large clinical information system and a suite of Grails applications for the University of Georgia Registrar.

AI development practice

- Lead a distributed team of developers or agents working in parallel on a decomposed project.
- **Intent and specification.** Proficient at writing technical specifications that are thorough, articulate, well-organized, and tuned for implementation by both AI and human developers. Practiced at developing specs with AI agents, for AI agents.
- Extensive daily work with AI coding agents since November 2024 (hundreds of hours, and counting).

Technical competencies

Languages

JavaScript, TypeScript, Python, Go, Java, Groovy, C, Perl, SQL.

Web & frameworks

Modern JS/TS frontends, Grails/Java, RESTful APIs, responsive UI, HTML5, CSS, Canvas, PixiJS, Svelte, React, Vite.

Databases

MySQL (18+ years), PostgreSQL, SQLite, schema design, CRUD, query optimization, reporting.

DevOps & systems

Linux (RHEL, Ubuntu), Apache, Nginx, Tomcat, Caddy/Traefik, bash, Git, Docker; VPS and multi-site hosting.

Security & auth

SSO (CAS), LDAP/AD integration, role-based access control, encrypted data flows.

AI & developer tooling

AI coding IDEs — Cursor, Claude Code, Windsurf, Antigravity, and the JetBrains suite — for rapid iteration, refactoring, and UI polish. Experience integrating LLM APIs into web applications.

Professional experience

Game, AI, and Web Development

2024 – 2026 (current)

Independent / solo · Remote

- Design and deploy browser-based video games, AI applications, and database-backed web applications, working primarily in TypeScript, Go and Python.
- Use Windsurf, Cursor, Claude Code, Antigravity, and other AI coding tools as part of day-to-day design, implementation, and iteration.
- Typical stack: Express, Vite, React, Svelte, Drizzle/Zod, Ollama, Three.js, PixiJS, and Docker.

Web Developer Specialist

2013 – 2024

Office of the Registrar, University of Georgia · Athens, GA

- Designed, developed, and maintained multiple production web applications built with the Grails framework, supporting critical Registrar functions including Banner access-control workflows, FERPA exam delivery, University Council processes, ticketing, inventory, and a department master calendar.
- Spent eleven years owning Registrar production systems end to end — requirements, design, implementation, testing, deployment, and support — for eight Grails applications and three RHEL VMs, including several dozen MySQL databases and three Tomcat instances serving secure content.
- Created CASIS, an early CAS-based single sign-on application on campus that continues to be used for identity-management testing of SSO production upgrades.
- Administered and extended the Registrar’s public website (Drupal → OmniUpdate), using custom CSS and webforms to streamline data collection for multiple campus teams.
- Collaborated with technical and non-technical staff to deliver reliable systems under tight timelines, including last-minute migration work from Ad Astra to 25Live using Perl-based data-transformation scripts.

Supervisor, Computer Services / Principal Programmer

2000 – 2013

Northeast Health District · Athens, GA

- Led architecture, design, and development of HN2, a large web-based clinical information and tracking system built with object-oriented Perl, MySQL, and open-source tools.
- Deployed HN2 to thirteen sites across a ten-county area, supporting over 300,000 clients and more than 5 million visits, and handling demographics, encounters, billing, scheduling, and reporting. HN2 has been in continuous operation since 2000.
- Supervised a development and support team of seven programmers and two support staff, established coding standards, and maintained a 135,000-line Perl codebase that remained reliable and maintainable over decades of enhancements.
- Migrated production servers from Fedora Core to Ubuntu Server, modernizing the stack to Apache 2, MySQL 5.5, and Perl 5.10, and implemented AES encryption and WSDL web services to integrate with remote systems.

Perl-SQL Web Programmer

1998 – 2000

Northeast Health District · Athens, GA

- Managed and enhanced MySQL databases, porting legacy data to MySQL and building new reporting capabilities that increased visibility into operations using open-source tools.
- Designed and implemented a Knowledge Base web system with reusable, object-oriented Perl components, later incorporated into the larger HN2 platform.

Earlier career experience

1987 – 1997

Various organizations · Georgia & Colorado

- Designed, coded, and shipped *The Interactive Atlas of Georgia*, used in all Georgia public schools and many libraries, including earlier work on the Electronic Atlas of Georgia using C and Assembly under MS-DOS.
- Developed C-based, real-time financial analysis features and installation tooling for Aspen Graphics, and administered Novell networks and Unix systems.
- Built multi-user C applications on Unix/Xenix for public health (WIC program) and performed systems programming on Sun servers and DOS systems in C, Pascal, and Assembly.

Selected projects

AI-powered Applications

idmeme - Web application that uses LLM APIs for image recognition, text extraction, and categorization.

Audio/Video Applications

Audio and Video apps and tools. kbvmaker (Video Maker for Still Images and a Soundtrack).

Browser-based games

Arcade-style shooters in modern TypeScript with PixiJS. Short-session games at the Take-A-Break Arcade: Asteroids-TS (dodge rocks, shoot back, infinite play) and Cannons (cannon battle: destroy the other castle, or be destroyed).

Tools

Bash scripts (a growing collection for everyday tasks); hashdups (find duplicate files by content hash, in progress); yt-id (parse titles, extract video IDs and author/title, and plan moves and renames in a yt-dlp workflow) and ytmmove (move and organize yt-dlp downloads).

Education

M.A., Geography

1995

University of Georgia · Athens, GA

Specialization in computer-assisted cartography, GIS, and geomorphology. Thesis on computerized cartographic production in an interactive atlas — work that connects directly to *The Interactive Atlas of Georgia* listed under earlier career experience.

B.S., Mathematics and Computer Science

1987

University of Georgia · Athens, GA · Double major

Undergraduate training in mathematics and computer science, the foundation for subsequent systems programming, cartographic software, and long-running production web systems.