RICHARD GRIFFITH

AI Engineer | LLM Applications | AI-Assisted Software Development

PROFESSIONAL SUMMARY

Engineer with 16+ years diagnosing and rebuilding complex technical systems, now building software around large language models. I build tools that let LLMs work safely with real software and turn operational problems into reusable systems rather than single-purpose fixes. Five applications built and in active daily use, including a configurable workforce compliance platform deployed in a healthcare department and a free, publicly released development workbench that Claude can operate directly to run and test software.

TECHNICAL SKILLS

- **AI & LLM Engineering:** Claude connector development (tool access for Claude Desktop and Claude Code), prompt engineering and structured prompting, agentic development workflows (Claude Code), multi-model evaluation (Claude, ChatGPT, Gemini), enforcing safety constraints on LLM-driven actions, local-first AI implementation
- **Development Approach:** AI-assisted implementation in Python and JavaScript using Claude Code; read, trace, and modify existing code; working knowledge of HTML/CSS, SQL, PowerShell
- **Software Engineering:** Requirements analysis, system architecture, configuration-driven design, automated UI testing, offline-first synchronization, REST API integration, Chrome extension development (Manifest V3), Windows desktop application development, technical documentation
- **Tools:** Git, GitHub, VS Code, Claude Code, npm, Windows Terminal
- **Systems:** Systems integration, network infrastructure, enterprise technical support, AV control systems (AMX), hardware/software troubleshooting

SELECTED PROJECTS

Benchdrop — Universal Software Runner & Automated Test Bench | Windows Desktop Application / *2026*

- Built a connector that lets Claude Desktop and Claude Code operate Benchdrop directly — open and run a project, read the screen, click through it, capture screenshots, and run automated tests — under the user's own Claude account with no API key. Benchdrop validates every action itself and logs each one Claude takes.
- Built Autotest, which clicks through an app the way a person would, filling forms and following its navigation, then reports console errors, failed requests, crashes, and hangs with the steps that led to each and a screenshot. Extended it to native Windows programs through Windows UI Automation.
- Enforced safety rules in code rather than as suggestions: destructive actions (delete, pay) are skipped unless explicitly allowed, links out of the app are never followed, password fields are never typed into, Claude has no tool that runs arbitrary shell commands, and anything resembling a secret is redacted from logs.
- Engineered a universal runner that identifies, sets up, and launches projects in eight languages (Node, Python, PHP, Go, Rust, Ruby, .NET, Java), plain web pages, and native Windows programs from a dropped zip, folder, file, GitHub link, or executable, verifying Node.js downloads against published SHA-256 checksums.
- Shipped v4.3.3 as a free public Windows release with a per-user installer needing no administrator rights, published checksums, a no-data-collection privacy policy, and source on GitHub; includes runtime tracing of clicks, network requests, and crashes and HTTPS phone preview with QR pairing.

CORE — Configurable Operations & Requirements Engine | Workforce Training & Compliance Platform / *2026*

- Replaced 12 manually maintained spreadsheets with a single Windows application now in daily production use, tracking staff records, recurring training, credential expirations, onboarding, and trainer scheduling after the organization's enterprise system could not be configured for the team.
- Architected a domain-agnostic engine with loadable configuration packs: the core program understands people, checklists, expiring credentials, orientation, and scheduling, while vocabulary, checklists, certifications, role templates, and dashboard layouts load from a separate pack — so healthcare, skilled trades, fleet compliance, and manufacturing run the same binary with no code changes.
- Built a requirements engine handling checkbox, date-count, and hours-based recurring requirements on calendar or arbitrary fiscal years, with role-scoped assignment, automatic period rollover, and retained historical records; designed to scale from ten to several hundred staff.
- Implemented Excel import with full pre-commit diff preview, pack-driven template generation, and complete export/reimport for migration between machines.
- Delivered as a single-file, zero-install, fully offline executable with automatic backup on launch, keeping all personnel records inside the organization.

ChatScribe — AI Conversation Exporter | Chrome Extension (Manifest V3) / *2026*

- Built a local-first Chrome extension (v1.4.1, submitted to the Chrome Web Store) that exports AI conversations to PDF, Word, and Markdown, preserving headings, lists, tables, links, and code blocks while leaving out interface clutter.

- Designed a modular adapter architecture: four platform adapters (Claude, ChatGPT, Gemini, Perplexity) isolate site-specific DOM parsing from a shared document-generation layer, so new platforms are supported without modifying export code.
- Implemented long-conversation capture that scrolls the chat to load earlier messages, preserves message order, and returns the reader to their place.
- Processed entirely in the browser: nothing is sent to any server, with no accounts or analytics, and permissions limited to four AI sites plus downloads, scripting, and storage.

ClockRoute — Time, Pay & Field Operations Application | Progressive Web App | *2024–2026*

- Built a payroll-accurate calculation engine handling daily, weekly, and pay-period overtime thresholds, the healthcare "8 and 80" rule without double-counting hours, stacking flat and percentage shift premiums, overnight shift attribution, and four pay-period conventions.
- Engineered offline-first capture so punches persist locally before transmission and reconcile when connectivity returns — recording actual punch time rather than sync time, and surviving app termination in dead zones.
- Enforced data isolation at the schema level so private incident and missed-break records cannot be exposed to an employer or crew, rather than relying on a settings toggle.
- Migrated the codebase from an earlier AI development tool to Claude and extended it to a second industry vertical, with onboarding-driven feature gating so each user sees only their trade's workflow.

Deskside Dial — YouTube Remote Control | Chrome Extension | 2026 — Play, pause, skip, seek, and volume control for YouTube and YouTube Music in another tab, with a pop-out window and keyboard shortcuts; no accounts or analytics, minimal permissions, submitted to the Chrome Web Store.

PROFESSIONAL EXPERIENCE

Independent AI & Software Development | *2024–Present*

- Work directly with the people living a workflow problem to define requirements, then build, test, and iterate until the software holds up in daily use.
- Design configuration-driven systems rather than single-purpose fixes, so one codebase adapts to a new domain through configuration instead of a rewrite.
- Use agentic AI development workflows to decompose requirements, implement and run code, diagnose failures, and refine implementations against real user feedback.
- Evaluate LLM platforms against task requirements and build structured prompting patterns and repeatable workflows to make model output consistent enough to depend on.
- Design for privacy, least-privilege permissions, offline operation, and error handling from the start.

Commercial Driver | P.A. Short | *2022–Present*

- Operate tractor-trailer equipment on assigned routes with a perfect safety record, managing delivery schedules, order accuracy, payment collection, and customer issue resolution under DOT requirements.

IT Technician | Kraven Solutions Inc. | *2021–2023 (part-time from 2022)*

- Delivered custom residential and commercial technology projects: system design, installation, configuration, and troubleshooting, independently and on small field teams.

Service Technician / Programmer | Lee Hartman & Sons | *2017–2021*

- Designed, programmed, installed, and troubleshot integrated AV and control systems for residential and commercial clients, translating customer requirements into system designs, implementation plans, and budgets, then diagnosing hardware, software, and integration failures to restore operation.

Senior Technologist (Electronics) | Lawrence Livermore National Laboratory | *2014–2017; 2011–2013 (Contract)*

- Designed customized conference-room systems across a 250+ room national research laboratory against technical, operational, and security requirements; served as acting lead on a five-person team, installing, maintaining, and programming AMX control systems and supporting end users directly.

Customer Support Technician II | Avidex — contracted onsite at Adobe, San Francisco | *2013–2014*

- Independently managed maintenance, support, and complex troubleshooting for 160+ enterprise conference and meeting rooms, coordinating with an international support team.

25U — Signal Systems Support Specialist | United States Army | *2007–2011*

- Maintained, inspected, and troubleshot communications and signal systems supporting operational readiness; deployed to Afghanistan (2008–2009).

EDUCATION & CREDENTIALS

- Associate of Science, Electrical Engineering Technology — ITT Technical Institute, 2014
- U.S. Army, Afghanistan 2008–2009 — Combat Action Badge, Army Commendation Medal