

Damien House

Washington, DC • dhouse109@gmail.com • [LinkedIn](#) • [Portfolio](#)

AI-augmented engineering leader and hands-on architect specializing in building agentic, cloud-native products for startups and high-growth teams. Combines 20+ years of full-stack and platform engineering with modern AI workflows to turn natural-language intent into production systems. Experienced in designing end-to-end architectures and leading small, senior teams from idea through launch. Known for research-driven experimentation, clear technical communication, and creating sustainable engineering practices that let founders move fast without losing control of quality, security, or cost.

CORE COMPETENCIES

- **AI & Agentic Engineering:** Designing AI-augmented workflows, agentic systems, and LLM-powered tools that turn product specs into working code and infrastructure, using GPT-4/Claude, MCP-style tools, and automation while preserving human oversight.
- **Product & Systems Architecture:** Translating ambiguous product ideas into clear architectures, technical roadmaps, and implementation plans. End-to-end design of web platforms, SaaS products, APIs, and data flows across front-end, back-end, and cloud infrastructure.
- **Full-Stack & Platform Engineering:** Building and scaling modern web applications and services, with strong focus on performance, reliability, observability, and security.
- **DevOps & Developer Experience:** Designing cloud-native architectures, CI/CD pipelines, containerized environments, and internal tooling that improve developer velocity, testability, and deployment safety.
- **Leadership, Mentorship & Collaboration:** Leading small, cross-functional teams; partnering with founders, PMs, and designers; mentoring engineers on both fundamentals and AI-assisted workflows; translating complex technical trade-offs for non-technical stakeholders.
- **Research, Design Science & Experimentation:** Applying Design Science Research, Human-Centered Design, and structured experimentation (MVPs, prototypes, spikes) to de-risk new product ideas and converge on solutions that are technically sound and user-informed.

TECHNICAL SKILLS

- **Languages & Frameworks:** HTML, CSS, TypeScript/JavaScript (Node.js, React, Next.js); Python (API services, scripting, ML/LLM prototyping); PHP (Drupal 11-7); SQL (PostgreSQL, MySQL, MariaDB), NoSQL; GraphQL & REST API design.
- **AI, Agentic Systems & Automation:** Large Language Models (OpenAI, Anthropic); AI-assisted development (GitHub Copilot, Cursor, Claude Code / Projects); LLM application patterns (RAG concepts, tool-calling / function calling, multi-agent orchestration, prompt engineering); workflow & experimentation (rapid prototyping of AI-powered features, evaluation and refinement loops).
- **DevOps & Platform:** Cloud (Amazon, Microsoft, Google); containers & orchestration (Docker, Kubernetes); CI/CD (GitHub Actions and similar pipelines); infrastructure-as-code & automation (Terraform, Ansible); observability & reliability (logging, monitoring, tracing and performance tuning).
- **Web & Content Platforms:** Decoupled, headless, and traditional CMS with Drupal, including API-first architectures; classic theming and modern front-end patterns with React/Next.js, component libraries, and design systems; accessibility and standards (WCAG, responsive design, performance-conscious UX).
- **Collaboration & Product Tools:** Jira, Confluence, Figma, Miro; Git/GitHub, code review workflows; remote collaboration (Slack, Zoom, distributed-team practices).

WORK EXPERIENCE

Fractional CTO & Principal Architect – 109.studio (June 1996 – Present, Washington, DC / Remote)

Independent studio focused on AI-augmented product development, agentic systems, and full-stack platform engineering for startups and small teams.

- **AI-native product architecture & delivery:** Partner with early-stage founders to turn vague product ideas into concrete, buildable system designs. Use AI-assisted workflows (Claude/GPT-4 + orchestration tools) to move from written product specs to working prototypes in days instead of weeks, while maintaining human review over architecture, security, and code quality.
- **Agentic & LLM-powered workflows:** Design and implement agentic patterns where AI systems can plan, execute, and refine complex development or operations tasks within guardrails. Define toolchains, context strategies, and safety boundaries so teams can trust AI to assist with real work (scaffolding services, writing tests, generating docs) without losing control.
- **Full-stack engineering for SaaS and data products:** Build and evolve web applications and services using HTML, CSS, TypeScript/Node.js, React/Next.js, Python, PHP, GraphQL/REST, SQL and NoSQL databases. Focus on clear domain modeling, clean interfaces between services, and pragmatic patterns that make it easy for small teams to understand and extend the system over time.
- **Cloud-native platform & DevEx:** Stand up and refine cloud environments (AWS/Azure/Google) with containerized services, CI/CD pipelines, and automated testing. Create development environments, scripts, and documentation that let new engineers become productive quickly and make releases predictable and repeatable.
- **AI-augmented developer tooling & internal projects:** Operate lab for AI-native engineering practices, building internal tools, templates, and starter kits that use LLMs to bootstrap services, generate integration code, and keep documentation in sync. Capture successful patterns into reusable assets that can be dropped into client projects to accelerate delivery.
- **Technical leadership & advisory for startup teams:** Act as Fractional CTO / Principal Architect for small teams that need senior technical judgment without a full-time executive. Clarify trade-offs between speed, cost, and robustness; help prioritize roadmaps; mentor engineers on how to incorporate AI safely and effectively into their day-to-day work.

Senior Technical Consultant – GXM Consulting (Aug 2022 – Apr 2025, Washington, DC / Remote)

U.S. Department of Commerce, International Trade Administration: trade.gov

- **Platform Modernization & DevOps:** Led a strategic digital transformation of ITA's web platform by migrating from Microsoft Azure to Acquia Cloud (Drupal platform). Spearheaded implementation of a Composer-based deployment pipeline and standardized cloud development environments, reducing onboarding friction and deployment risk. Ensured high availability and security through proactive maintenance, automated testing, and CI/CD workflows.
- **Enterprise Drupal Engineering:** Developed complex Drupal 9/10 solutions for a large, content-rich website (61 content types, 338 fields, 72 views, 294 templates). Created and maintained 24 custom modules that manage content lifecycle, track user behavior, integrate external services, enhance user experience, ensure security, provide reporting, and facilitate communication. Achieved **WCAG 2.2** accessibility compliance across the site by remediating front-end code and enforcing best practices, improving inclusive access for thousands of users.
- **Cross-Functional Leadership & Documentation:** Collaborated with product owners, UX designers, and analytics teams in Agile Scrum sprints to deliver new features (e.g. an Export Solutions portal redesign). Authored extensive technical documentation and standard operating procedures for local Docker/DDEV environments and deployment processes, streamlining team onboarding and knowledge transfer. Championed process improvements such as adjusting sprint cadence to optimize velocity and proposing dedicated development environments to enhance developer experience.

Senior Technical Consultant – Innosoft Corporation (Jul 2021 – Jun 2022, Washington, DC / Remote)

U.S. Department of Commerce, National Telecommunications and Information Administration: NTIA.gov

- **Legacy System Migration:** Sole technical lead managing the full migration of the NTIA public website from Drupal 7 to 9 (code and infrastructure). Developed a comprehensive project plan and executed end-to-end migration through iterative two-week sprints. Delivered the project **ahead of schedule**, allowing extended QA/UAT and ensuring a seamless launch with zero downtime.
- **Full-Stack Development & Compliance:** Built custom Drupal modules and a new theme to meet all client requirements, including interactive data visualizations with D3.js. Ensured the new site was fully responsive and **Section 508 / WCAG 2.0** compliant for accessibility. Engineered the solution with future-forward compatibility, easing potential transitions to cloud PaaS environments by adhering to modern architecture principles.

Senior Technical Consultant – Focused Management, Inc. (May 2017 – Dec 2020, Washington, DC / Hybrid)

U.S. Department of Agriculture, Office of the CIO – Platform Services

- **Enterprise Platform Overhaul:** Led the modernization of USDA's web infrastructure by migrating 13 mission-critical websites (Drupal 7 & 8) from fragmented on-premise systems (Windows/IIS/SQL Server) to a unified Linux/Apache/MariaDB stack. Introduced Docker containerization (USDA's first containerized production environment) with Rancher orchestration for CI/CD, delivering the new platform **3 months ahead of schedule**. Implemented enterprise Single Sign-On (eAuth) across all sites, eliminating credential management vulnerabilities.
- **DevOps & Continuous Improvement:** Established scalable Operations & Maintenance practices to support thousands of users across multiple agencies. Engineered high-impact enhancements such as intelligent content autocomplete features, community engagement tools (voting modules), and automated content workflows for weekly updates. Maintained zero-downtime deployments via optimized database procedures and proactive module lifecycle management.
- **Infrastructure & Security Leadership:** Took on critical system administration duties within a 24/7 enterprise operations center. Triaged and resolved high-severity infrastructure issues (Active Directory, DNS, database cluster alerts) under strict SLAs. Streamlined security patching and hotfix deployment through rigorous pre-production testing, significantly reducing unplanned downtime and ensuring compliance with federal IT security standards.

Senior Technical Consultant – Blackstone Technology Group (Nov 2013 – Dec 2016, Arlington, VA / Hybrid)

U.S. Department of Agriculture, Food and Nutrition Service (FNS) & Agricultural Marketing Service (AMS): fns.usda.gov, ams.usda.gov

- **Web Modernization Projects:** As Drupal SME and lead developer, directed the rebuild of the AMS public website from a legacy system to Drupal 7. Guided the project through detailed requirements analysis, architecture design, and iterative development across multiple major releases. Integrated complex features (e.g. Market News data integrations, PIV card login) and delivered them within aggressive timelines, earning trust from USDA stakeholders.
- **Agile Delivery & Performance:** Drove significant improvements in team productivity and software quality. Coached a cross-functional team through dozens of sprints, resulting in a **67% increase in sprint velocity** (from 18 to 30+ story points) during critical phases. Ensured all deliverables met "Definition of Done" and received client acceptance, contributing to consistent "Exceeds Expectations" performance evaluations.
- **Innovation and Reusability:** Championed the creation of a reusable Drupal-based Web Content Management baseline to accelerate future projects. Established standardized deployment checklists and best practices that improved predictability and stability for subsequent agency initiatives. Actively participated in internal R&D (e.g. exploring headless CMS and Node.js prototypes) to future-proof the team's skills and solutions.

EDUCATION

- **Morgan State University** – Electrical Engineering, 1997–1999
- **Baltimore Polytechnic Institute** – STEM / Advanced College Prep, 1993–1997