MICHELLE BRENNAN

SOFTWARE ARCHITECT & TECHNICAL LEADER · PHILADELPHIA, PA

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SUMMARY

Software architect and technical leader with 18 years of experience building enterprise systems. Leads architecture and engineering standards for an infrastructure organization of about 200 people at Lockheed Martin, including an event-driven microservices platform for delivering internal IT products. Helping lead the organization's move to AI-assisted development, and built AI skills that bring architecture best practices into engineers' design work. Wants to apply that experience to AI security and adversarial robustness research.

EXPERIENCE

Lockheed Martin 2018–Present

Software Lead & Software Architect 2022–Present

- Proposed, and now lead the architecture of, an event-driven microservices platform for delivering and managing internal IT products, replacing disconnected solutions that lacked observability. 15 services in production behind a REST API.
- Set software engineering standards for about 200 people across about 20 teams, and mentored teams with systems administration backgrounds through design reviews and hands-on coaching.
- Created a Developer Champions program of about 30 representatives, running two years, with a monthly focus area, from Git workflow and CI to data modeling, schema design, and using AI effectively.
- Worked with a small team of leaders to move the organization to AI-assisted development, using poor AI output as examples of why engineering and design skills still matter.
- Built a model-invoked architecture skill for Claude Code and Codex that applies data modeling and event design best practices where AI-generated designs were weakest, and keeps designs only as complex as needed. Now piloting it with another IT team so they can contribute to the platform.
- Led design of the platform's core patterns: shared event schemas, event publishing through Dapr, and clear service boundaries.
- Set guidance for how teams work in GitLab, including access management, secrets management, branching strategy, commit conventions, and versioning.
- Led the design of Python libraries for internal APIs, and worked with other teams across Lockheed Martin on an InnerSource catalog to make shared packages easy to find.

Product Analyst 2020–2022

- Product development lead for the enterprise Ansible Tower and Terraform Enterprise offerings, setting priorities and planning releases.
- Taught the DevSecOps pipeline courses on Git, and an internal pipeline course for citizen developers.

Staff Software Engineer 2018–2020

- Led the migration of a standalone ServiceNow instance into the enterprise instance, and received a Bronze Award for it.

Tech: Python, FastAPI, JavaScript, PostgreSQL, AWS (S3, EC2, RDS, Lambda), Redpanda, RabbitMQ, Dapr, Terraform, Ansible, GitLab CI/CD, Kubernetes, Helm, Argo CD, OpenTelemetry, Grafana, ServiceNow, MkDocs, Claude Code, Codex

BroadSoft · Lead Developer 2015–2018

- Technical lead on the Comcast Xfinity Mobile project. Developed front-end applications used by support and sales agents with AngularJS.
- Built OAuth 2.0 integrations with Zendesk and Comcast's cable account APIs to give call center agents customer data and support tooling for Xfinity Mobile technical support.
- Created the Git branching strategy and code review process for a team of six developers.
- Implemented a CI/CD pipeline using Jenkins and GitHub for continuous integration and deployment of the Xfinity Mobile web applications.
- Developed an application for micro-businesses that lets customers sign up for company phone service and provision phone numbers at sign-up. Demoed at the 2015 BroadSoft Connections Conference.

Tech: TypeScript, JavaScript, AngularJS, Node.js, Jenkins, OAuth 2.0, REST APIs

Computer Sciences Corporation · Senior Software Engineer, Cybersecurity 2012–2015

- Developed and maintained a large-scale web-based security portal integrated with several SIEMs, including ArcSight and Symantec SIM.
- Designed and developed a responsive financial reporting application for the North American cybersecurity finance team, replacing manual Excel-based reporting.
- Developed RESTful APIs to expose reporting data to other systems.
- Led the initiative to modernize the portal with current front-end development techniques.
- Designed relational databases for ticketing and asset management applications.

Tech: PHP, MySQL, JavaScript, Apache, Linux

Earlier roles (2008–2011): web development at the National Board of Medical Examiners and Pliner Solutions; QA internship at Guideworks (Comcast).

AI PROJECTS

Code quality analyzer (RAG, self-hosted LLaMA) 2023

- Capstone proof of concept for a Lockheed Martin machine learning program. A retrieval-augmented tool that analyzed a repository and rated its code quality, flagging issues like potential secrets and poor variable and method naming.

Tech: Python, LLaMA, LangChain, Google text embeddings

SKILLS

Architecture and design: event-driven systems, microservices, REST/OpenAPI, domain-driven design, data modeling, relational database design, event schema design

Languages: Python (FastAPI), JavaScript, TypeScript, SQL, PHP, C#

Front end: HTML, CSS, JavaScript frameworks (AngularJS), responsive design, UX and information architecture

Data and messaging: PostgreSQL, MySQL, Redpanda (Kafka-compatible), RabbitMQ, Dapr

Automation and delivery: Git, GitLab CI/CD, GitOps deployments (Argo CD, Helm), Ansible, Terraform, automated testing in CI (linting, unit and integration tests), code review

AI: AI-assisted development (Claude Code, Codex), agent skills for design and code review, MCP, RAG, LangChain, LLaMA; Claude, GPT, and Gemini models

Security and governance: OIDC, SIEM integration

Familiar with: Kubernetes

EDUCATION

BS, Digital Media; Minor, Computer Science · Drexel University · 2012