James Robert Miller

AI Architect · enterprise AI, agent orchestration, LLM evaluation

Chicago, IL · open to remote or hybrid roles

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AI architect with 16+ years building software, at Accenture since 2018. I am one of the original creators of **Amethyst**, Accenture's internal AI assistant, which began as a hackathon our team won in 2019, and the last original member still building it. Today I own its orchestration layer across **Amazon Bedrock, Azure OpenAI and Google Vertex AI**. I spend as much time on how teams build with AI as on what they build: context is an asset, and an AI is only as useful as what your team has written down. On my own time I build open-source tools that measure what AI coding agents actually do.

16+ years building software	**3** cloud AI platforms behind one orchestration layer	**14** open-source AI agent tools	**2** hackathon wins

EXPERIENCE

Accenture — Chicago, IL — Feb 2018 - present

AI Architect, Amethyst — Sep 2023 - present

Formally promoted to architect in December 2024.

- Own Amethyst's orchestration layer across Amazon Bedrock, Azure OpenAI and Google Vertex AI, plus its conversation, workspace and memory services and the retrieval and ingestion pipeline.
- On a leadership-sponsored pilot of a GenAI-native engineering team, owned AI tooling and shared context and wrote the ways-of-working standard the team builds by. That became a shared team memory: decisions, meetings and requirements captured as they happen, linked and versioned, answerable in plain language from Microsoft Teams.
- Built and shipped automated testing for AI agents: repeatable runs with stored results, so one release can be compared with the last, and overlap detection that catches two agents covering the same subject before users do.
- Added security and compliance validation at the user and response level.
- Shipped text-to-speech and speech-to-text, then real-time voice on AWS Nova Sonic: a spoken conversation you can interrupt mid-sentence.
- Worked across agent registration and orchestration, access-controlled agent selection, the .NET 8 move for Azure Functions, and integrations including Microsoft Graph, M365 Copilot, Teams SSO and Adobe Firefly, as the US-based architect working with engineers in Manila and testers in Argentina.
- Designed and built two separate environments, each with its own databases and AI services, so teams building agents on Accenture's agent platform can experiment without touching internal dev and staging.
- Worked on Amethyst's move from intent-based Azure LUIS to a GPT-based 2.0 (backend, plugins and enterprise API integration with Semantic Kernel), and set up repeatable performance testing with JMeter and Azure Load Testing, provisioned with Terraform and wired into pipelines.
- Rebuilt the business testing tool on worker processes, ran hands-on enablement across teams, and reviewed and signed off the team's code changes.

Senior Software Developer — Feb 2018 - Aug 2023

- One of the original creators of the AskAccenture chatbot: a 2019 hackathon our team won that reached production as an MVP within two months, then became OmniBot and later Amethyst. Built its employee lookup and PTO capabilities.
- Built the people-lookup app on the web and in Microsoft Teams, and a rapid single-page-app deployment platform on AWS S3 that cut delivery from months to weeks.
- Moved the internal survey platform from Windows Server and IIS to Docker, Alpine Linux and Nginx.
- First project: KX Documents slide-level search, so people search inside PowerPoint decks and land on the most relevant slide, not just the best document.

Saggezza Chicago, IL Jan 2015 - Dec 2017

Senior Full-Stack UX Developer

- Delivered client projects end to end, on teams and solo, for Cigna, MasterCard, P.F. Chang's, RR Donnelley, LSC Communications, VSP Direct Insurance and Calero.
- Built Saggezza's corporate and UX websites and the OneSaggezza mobile app (Ionic and Angular, Android and iOS).
- For RR Donnelley, extended the XBITS XML format so printing equipment from acquired companies could talk to its systems, and built an iPhone app that read Morse code from a blinking light through the camera, to pull data off printed electronics.
- Volunteered two weekends to bring a colleague's project up to the WCAG AA accessibility standard its contract required.

No Magic, Inc. Allen, TX Feb 2013 - Apr 2014

Application Developer

- Built a drag-and-drop dashboard system for MagicDraw, No Magic's UML modeling software. The demo drew the CEO and earned a full-time offer, which I turned down after being accepted into a master's program. My first commercial Agile team.

Purdue University Indiana Feb 2010 - Jan 2016

Full-Stack .NET Developer, DMCS (part-time)

- Built the Disaster Management Communication System with its founder, Professor Barbara Nicolai: my first full-stack production application, in ASP.NET, C# and SQL Server, on a program funded by Homeland Security and Department of Defense grants, built to help first responders coordinate and close out an incident quickly. Covered by Purdue news and the January/February 2015 issue of Building Indiana.

OPEN SOURCE

Fourteen tools at github.com/jimmyjames177414. The eleven research tools each ship a NOVELTY.md with a written prior-art search and the claims the project may not make.

- WATCHING AGENTS WORK **rollcall**: which worktree each running AI coding agent owns, and which work nobody owns (write-up). **sincelast**: tells a coding agent what changed underneath it, before it acts.
- HONEST EVALUATION **errorbars**: power analysis and paired confidence intervals for LLM evals (write-up). **inconclusive**: did the property fail, or did the run just end? **knowwhen**: a benchmark for whether an agent knows when to ask instead of act (write-up).
- MEASURING CONTEXT **mincontext**: delta debugging that shrinks a failing context to the smallest reproducer. Also **stopless**, **stopbench** and **toolsweep**, which measure how much of a prompt or tool schema actually earns its place.
- ACCOUNTABILITY **assumptionledger** and **validwhile**: agents that state their assumptions, and memory whose facts carry a check for when they stop being true.
- OTHER **worker-king**, an always-on Windows desktop assistant that hands real work to Claude Code. **claude-roundtable**: two Claude personas argue a topic, streamed live in the terminal. **claude-memory-atlas**: Claude Code memory as an offline interactive knowledge graph.

SKILLS

AI and agents
Agent orchestration, RAG, LLM evaluation, MCP, Claude Code, Semantic Kernel, Amazon Bedrock, Azure OpenAI, Google Vertex AI

Cloud and infrastructure
AWS (Bedrock, Lambda, EKS, S3, RDS), Azure Functions, Terraform, Kubernetes, Docker

Languages and frameworks
TypeScript, Node.js, Python, C# and .NET, Angular, PostgreSQL, SQL Server

Practice
Solution architecture, performance engineering, Microsoft Teams apps, accessibility (WCAG AA)

EDUCATION

Purdue University Calumet
Bachelor's degree, Computer Science through CIT&G
2009 - 2013