Brad Wagoner

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Professional Summary

Senior Software Engineer with 16+ years of experience developing full-stack applications for universities, federal agencies, startups, and commercial SaaS organizations.

Comfortable working across the entire application stack, from database design and service architecture to modern web frontends, cloud infrastructure, and AI-assisted development workflows. Work has ranged from online learning platforms and mobile applications to federal systems and financial products.

Core Technologies

Java • Spring Boot • Angular • AWS • SQL • TypeScript • Node.js • REST APIs • MCP • LLM Tooling

Professional Experience

Senior Software Engineer | Buyers Edge Platform

January 2025 - October 2026

- Built Angular-based user interfaces and Spring/Hibernate backend services supporting reporting, accounting, and operational business processes.
- Delivered general ledger, banking integration, and operational reporting features for customer financial workflows using AI coding agents (Claude Code, Cursor, GitHub Copilot, Codex, Devin).
- Designed and implemented an internal knowledge graph and MCP-based service to reduce duplicated discovery efforts and lower token usage for development teams.

Software Developer Sr. Advisor | General Dynamics IT (GDIT, formerly CSRA)

October 2016 - December 2024

Primary Project - RAPID

- Contributed to the development and evolution of an EPA platform used to plan, review, approve, and track scientific research initiatives across multiple programs and stakeholder groups.
- Mentored developers and helped establish development and deployment standards.
- Designed and implemented a reporting architecture that generated consistent output across web, PDF, Word, and Excel formats from a single source of truth, meeting a legal requirement for consistent output and significantly reducing maintenance overhead.
- Earned SAFe Scrum certification to enhance Agile development practices.

Grants and Fellowship System (GFS)

- Redesigned an EPA grants management platform using Grails and Angular.
- Assumed responsibility for project delivery after the departure of the original technical lead and completed the remaining implementation effort.

Most Probable Number Calculator (MPN)

- Rebuilt an EPA scientific analysis tool from a standalone C# desktop application into a publicly accessible Angular web application.
- Converted and validated thousands of lines of mathematical calculation logic against established scientific datasets.
- Served as sole developer throughout the project lifecycle.

Western Illinois University - Center for the Application of Information Technologies (CAIT)
Senior Software Engineer- October 2014 - October 2016 • Software Engineer- January 2010 - October 2014
i-Pathways GED Prep Course

- Served as the primary developer for i-Pathways, an online GED and high school equivalency preparation platform. Led modernization efforts that improved maintainability, expanded deployment options, and supported the platform's growth from an Illinois statewide curriculum into a nationally deployed learning system.
- Designed and implemented offline/intranet deployment solutions enabling adoption within correctional facilities and other restricted-network environments.
- Identified an opportunity to expand content distribution and independently developed an automated conversion process that transformed legacy educational content into SCORM-compliant learning packages, creating a distribution channel that continues to be offered more than a decade later.

WIU Mobile

- Led development of Western Illinois University's mobile application platform serving a university community of more than 10,000 students.
- Consolidated campus mapping, dining, and diverse departmental data feeds into a unified mobile experience.
- Established a reusable, Cordova-based mobile deployment strategy that enabled development of additional mobile applications and created new revenue opportunities for the department.

Independent Projects

MCPdia **|** github.com/bradwagoner/mcpdia (2026)

- Designed and built an MCP server using TypeScript and Node.js that gives AI coding agents persistent, shared memory as a knowledge graph, replacing markdown memory files that force the model to read an entire file to find one fact.
- Cut token use with tiered responses across 12 intent-named tools: the model skims titles or summaries of nodes and loads full text for only the ones that matter.
- Built a layered architecture (thin MCP tool adapters, a storage-agnostic core, and a pluggable storage interface) on SQLite with FTS5 full-text search.
- Works cross-platform with any MCP-compatible client.

Fitness Assessment Platform (2024)

- Designed and developed a cloud-native application architecture using Angular, AWS, CDK, Cognito, and DynamoDB.
- Worked directly with the founder to design and implement functionality to evaluate exercise repetitions, range of motion, and movement quality from video input.

Education

B.S. Computer Science, Western Illinois University (2009)
B.S. Law Enforcement and Justice Administration, Western Illinois University (2009)
A.A.S. Computer Science, Illinois Central College (2006)

Additional Information

Outside of software development, I manage a small apiary with my wife and children. I started beekeeping in 2020 with three colonies and, through creating splits and catching swarms, have grown to as many as twenty. I also enjoy woodworking and hand building the hives my bees live in.