

Matthew Earnest

Software Developer

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PROFESSIONAL SUMMARY

Full-stack engineer who ships products end-to-end — frontend to backend to infrastructure. Background in .NET and SQL data systems, currently building RAG platforms and LLM agent infrastructure with React, FastAPI, and Python.

PROFESSIONAL EXPERIENCE

Full-Stack Engineer

Bear Creek AI | March 2026 – Present

- Built an AI course generation product end-to-end for enterprise compliance training using FastAPI/MongoDB backend, React frontend, document-to-course ingestion pipeline, and per-course RAG over Pinecone with Azure OpenAI embeddings.
- Designed a per-topic AI tutor that delivers guided learning grounded in user-uploaded reference materials, dynamically updating learner progress and learning objectives mid-conversation via tool calls and adapting instruction based on real-time assessment performance.
- Extended a multi-provider LLM agent layer (OpenAI, Anthropic Claude, Google Gemini via LangChain) to power context-aware tutoring, assessment generation, and chat-based hints.
- Built course-level analytics, assessment workflows, and progress tracking for admin and learner dashboards, and contributed enterprise-tier features on top of an existing multi-tenant foundation.
- Own production deployment and infrastructure on Koyeb: configured autoscaling, CPU/memory provisioning, and resource tuning across services to keep the platform responsive under variable AI workload demand.

Software Developer

CGI Technologies | June 2024 – March 2026

- Built and supported numerous automated batch processing applications integrating diverse data sources into centralized SQL databases.
- Enhanced full-stack device management platform with Angular, TypeScript, and .NET features, expanding capabilities for enterprise users.
- Designed production database architecture including tables, stored procedures, and ETL pipelines; deployed multiple SSIS jobs ensuring reliable data processing operations.
- Contributed to CI/CD pipeline implementation and provided production support across multiple applications.

EDUCATION

Master of Science in Management Information Systems

University of Alabama

Bachelor of Science in Management Information Systems

University of Alabama

CERTIFICATIONS

- AWS Certified Developer – Associate
- ISTQB Certified Tester, Foundation Level
- IIBA Entry Certificate in Business Analysis

SKILLS

Languages: C#, .NET, Python, TypeScript, JavaScript, SQL

Frameworks and Libraries: FastAPI, React, Angular, Node.js, Express, ASP.NET MVC, LangChain

AI and Machine Learning: Retrieval-Augmented Generation (RAG), LLM Tool Calling, Pinecone, LangSmith, Speech-to-Speech Models

Databases: SQL Server, PostgreSQL, MongoDB, SSIS, ETL Pipelines, Stored Procedures

Cloud and DevOps: AWS, DevOps, Docker, Koyeb, Railway, Vercel, CI/CD, Git, Batch Processing

APIs and Architecture: RESTful APIs, Multi-tenant SaaS, Microservices, Authentication (JWT), Stripe Integration

Tools: Jira, Slack, Tailwind CSS, Framer Motion, PowerShell

PROJECTS

BlownCartridge.com – Game Review Site

blowncartridge.com

- A Letterboxd-inspired video game review site with user reviews, community rankings, and analytics. Built with Tailwind CSS, Framer Motion animations, and performance-optimized canvas rendering with mobile-specific optimizations and accessibility support.

AlterFit – AI-Powered Fitness Platform

alterfit.app

- AI-powered workout program creator that adapts to a user's chronic injuries as they arise. Built with Node.js, Express, PostgreSQL, Stripe payments, and JWT authentication.

Agentation Vanilla – Browser Annotation Tool

github.com/mearnest-dev/agentation-vanilla

- Open-source visual annotation tool for vanilla JavaScript development, inspired by Agentation.

Tyrant – Kingdom Management Game

bigporkgames.itch.io/tyrant

- 48-hour game jam entry where the player acts as a king balancing the people, nobles, and armies to reign as long as possible.