Chase Reynolds

Software Design Engineer

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EXERIENCE

AI Intern | Speer Technologies | Orlando, Florida
April 2024 – Present

- **System Architecture & Automation:** Led the development and implementation of System One using n8n workflow automation and Supabase PostgreSQL, achieving 90% reduction in report generation time while maintaining 99.9% uptime through robust Linux server configuration and Shell scripting.
- **AI Integration & Development:** Engineered a sophisticated RAG system leveraging xAI Grok and LangChain, implementing advanced prompt engineering techniques that improved report accuracy and contextual understanding, while reducing clarification requests by 85%.
- **Data Pipeline Engineering:** Architected real-time data pipelines using X API Realtime API and Node.js, enabling automated research capabilities with 95% accuracy and seamless integration with existing systems.
- **Vector Database Implementation:** Designed and deployed a vector-based memory system utilizing Supabase pgvector and OpenAI Embeddings, implementing efficient caching mechanisms and query optimization that significantly improved response times for semantic search operations.
- **Project Management & Collaboration:** Managed cross-functional teams using agile methodologies, coordinating development efforts through GitHub, and maintaining comprehensive documentation for complex AI systems.

PROJECTS

Flueo AI Language Learning Webapp
May 2025 – Present

- **Full Stack Development:** Architected a production-grade language learning platform using Next.js 14 and TypeScript, implementing modern authentication flows and real-time database operations with Supabase SQL for optimal performance.
- **AI Translation System:** Engineered an advanced translation engine using GPT-4 API integration, developing sophisticated prompt templates for handling idiomatic expressions and cultural nuances across multiple language pairs.
- **Learning Algorithm Design:** Created a proprietary spaced repetition algorithm based on SM2, resulting in 40% faster vocabulary acquisition compared to traditional methods, while implementing comprehensive A/B testing for optimization.
- **UI/UX Implementation:** Built a responsive web application using shadcn/ui components and custom React hooks, achieving a 98% Lighthouse accessibility score and implementing advanced state management patterns.
- **Analytics Dashboard:** Developed real-time analytics visualization using Recharts, creating interactive data representations that provide personalized insights for vocabulary acquisition patterns.

SmartCards Budgeting & Receipt Processing
Oct 2024

- **Hackathon Leadership:** Led development of a first-place winning AI application at ShellHacks 2024, managing a team of developers and architecting a hybrid React/Flask solution that showcased innovative receipt processing capabilities.
- **Backend Architecture:** Engineered a sophisticated Python backend using Flask and FastAPI, implementing GPT-4 integration that achieved 50% faster receipt processing through intelligent transaction classification.
- **Database & Sync:** Implemented Firebase real-time database integration with TypeScript, enabling instant cross-device synchronization with 99.9% data consistency and robust error handling.
- **Full Stack Integration:** Developed seamless frontend-backend communication using RESTful APIs, implementing comprehensive error handling and type safety through TypeScript integration.

EDUCATION

University of Central Florida | Orlando, Florida
August 2025
Bachelors - Applied Mathematics, Minor – Computer Science

SKILLS

LangChain & NLP	SQL & Supabase & PostgreSQL	Docker, git, github actions
GPT-4 & LLMs	Vector Database Management	TypeScript & JavaScript
AI & Agentic Frameworks	Prompt Engineering	Next.js & React
Machine Learning (ML) & Python	Linux, Shell Scripting, and Nginx	REST APIs
Python & FastAPI	RAG (retrieval augmented generation)	n8n & workflow management