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Zachary Handley

SOFTWARE ENGINEER | FULL-STACK DEVELOPER | AI SPECIALIST

PROFESSIONAL SUMMARY

Software Engineer and AI Developer with over 10 years of experience in full-stack development and 3+ years in deploying and optimizing AI solutions on Microsoft Azure. Self-taught and continuously evolving through hands-on projects and specialized courses. Skilled in Azure AI Studio, Prompt Flow, and GPT-4 integration, with a strong focus on prompt engineering, data pipeline creation, and serverless architectures. Proven track record in hackathons, including first place in AI-driven audio generation. Passionate about using AI to create solutions that make a difference in the social development sector.

WORK EXPERIENCE

CTO & CO-FOUNDER

Oct, 2024 - Present

Socialaize

Built an AI-powered social media management platform from the ground up, enabling creators, marketers, and businesses to streamline content management across multiple platforms and boost engagement. Developed a sophisticated architecture using Vue frontend, Astro SSR, TypeScript, Python, and containerized AI solutions.

- Architected and implemented a comprehensive backend, creating dedicated APIs for each social media platform with synchronization capabilities, analytics, and more
- Developed robust system for automated content scheduling, gathering analytics, and posting across multiple social media channels
- Built and deployed a containerized AI API server leveraging GPT with LlamaIndex for intelligent content generation and optimization
- Implemented a subscription-based payment system for monetizing premium
- Engineered the entire solution with a focus on scalability and performance, investing over 2,000+ hours in development

ARTIFICIAL-INTELLIGENCE SPECIALIST

Dec, 2024 - March, 2025

UNICEF

Led the creation of UNIBOT, UNICEF's internal, fully Azure/GPT-based AI bot, leveraging LlamaIndex, PGVector, FastAPI, and Docker. Developed scalable AI models and integrated advanced data processing techniques to optimize the bot's performance.

- Designed and deployed AI-driven solutions using Azure, GPT-4, and advanced AI technologies to enhance bot capabilities.
- Integrated LlamaIndex and PGVector for efficient document retrieval and vector search functionalities.
- Utilized Docker for container orchestration with templated Kubernetes

FULL-STACK DEVELOPER

May, 2024 - Dec, 2024

REV3ALMARKETPLACE

Led the development of REV3AL Marketplace, the world's first security-centric NFT platform, integrating blockchain technology and patent-pending multi-layered cybersecurity. Optimized the platform for seamless user experience by enabling easy wallet integrations and developing NFT upload, listing, and sale features.

- Created and deployed a secure NFT platform using blockchain and advanced cybersecurity, ensuring asset authenticity.
- Integrated multiple wallet options, including MetaMask and Coinbase, for seamless transactions.
- Developed features that allow creators to upload, list, and sell NFTs through various listing options.

October, 2022 - Present

Developed AI models and full-stack solutions using Microsoft Azure, specializing in GPT-4 and prompt engineering. Enhanced data workflows through scalable data pipelines, achieving improved data processing speeds. Leveraged serverless architecture to optimize deployment, reducing operational costs while maintaining high availability.

- FOUNDER | FULLSTACK ENGINEER**

January, 2019 - Present

Co-founded and led a digital solutions firm, delivering AI-driven applications and full-stack projects for clients. Focused on custom AI development, including fine-tuning language models for enhanced user engagement. Built or had a hand in building over 30 web and mobile applications, managing end-to-end development with a strong emphasis on cloud deployment and uptime.

- ## INNOVATION ARCHITECT (AI & BLOCKCHAIN)

December, 2020 - August, 2022

Designed AI-integrated solutions for blockchain applications, blending LLMs with smart contracts to automate processes and enhance user experiences. Developed secure, custom APIs and data exchange protocols using Python and FastAPI. Optimized data retrieval with scalable vector search, improving response times in AI applications by 20%.

- ## WEB3 & UNITY GAME DEVELOPER

November, 2017 - August, 2020

Served as a Web3 and Unity Game Developer for a fintech and crypto company, focusing on creating visual representations of the company's technology for external audiences. Though the project didn't go live, the role involved cutting-edge blockchain technology and game development.

- ## WEB & MARKETING CONSULTANT

November, 2011 - September, 2017

Provided web development and consulting services to clients, focusing on SEO, internet marketing, and web design. Projects involved WordPress site development, Bootstrap-based designs, and custom HTML/CSS implementations.

- Built and optimized WordPress websites for SEO and marketing purposes, delivering results that improved client visibility online.
- Managed end-to-end web consulting projects, from website design to digital marketing strategy execution, including social media integration and lead generation.
- Created and optimized sales funnels for clients using PHP, HTML, and more

EDUCATION

UNIVERSITY OF MAINE – ORONO

Computer Science

SOFTWARE

AI & Machine Learning: Azure AI Studio, Prompt Flow, GPT-4, OpenAI API, Fine-tuning LLMs, Claude, Mistral, HuggingFace, others

Cloud Solutions: Azure Functions, Kubernetes (AKS), Docker Swarm, AWS, Serverless Architecture

Programming: Python, JavaScript, TypeScript, C#, Swift, Rust, Flutter/Dart

Web Development: Django, FastAPI, Astro, Vue.js, Appwrite, PostgreSQL, PHP, React

Data Engineering: Data pipeline creation, ETL processes, SQL and NoSQL databases, Data processing optimization

Additional Tools: Claude AI, Open-source LLMs, Hugging Face, Portainer

SKILLS

Artificial Intelligence & Machine Learning: Proficient in cutting-edge AI technologies including Azure AI Studio and Prompt Flow, Expert in leveraging GPT-4 for advanced natural language processing tasks, Skilled in fine-tuning Large Language Models (LLMs) for specific applications, Experienced in integrating OpenAI API for AI-powered solutions

Cloud Computing & Architecture: Adept at developing serverless applications using Azure Functions, Proficient in containerization and orchestration with Kubernetes (AKS) and Docker Swarm, Experienced in AWS cloud services for scalable and robust solutions, Expert in designing and implementing serverless architectures for optimal performance

Programming & Software Development: Versatile programmer with expertise in Python, JavaScript, TypeScript, and C#, Proficient in mobile app development using Swift and Flutter/Dart, Experienced in systems programming with Rust for high-performance applications

Web Development & Databases: Skilled in building web applications using Django, FastAPI, and Astro frameworks, Proficient in front-end development with Vue.js for interactive user interfaces, Experienced in backend-as-a-service solutions using Appwrite, Expert in database management with PostgreSQL for efficient data storage and retrieval

Data Engineering & Analytics: Skilled in designing and implementing efficient data pipelines, Proficient in Extract, Transform, Load (ETL) processes for data integration, Experienced in both SQL and NoSQL databases for versatile data management, Expert in optimizing data processing for improved performance and scalability

LANGUAGES

Programming: Python, JavaScript, TypeScript, C#, Swift, Rust, Dart, Go, Ruby, PHP, SQL, NoSQL, Solidity, Rust, C++, Java, Haskell,

Web Frameworks: React, Angular, Vue.js, Astro, Django, FastAPI, Node.js, Express, Next.js, Svelte

Mobile Development: Flutter, React Native, SwiftUI, Kotlin (Android), Xamarin

Cloud & DevOps: Azure Functions, AWS Lambda, Google Cloud Platform, Kubernetes (AKS, GKE, EKS), Docker, Terraform, Serverless Framework, CI/CD (Jenkins, GitHub Actions)

AI & Data Science: TensorFlow, PyTorch, scikit-learn, Pandas, NumPy, Azure AI Studio, Prompt Flow, GPT-4 integration, OpenAI API, Hugging Face Transformers

Blockchain: Solidity, Web3.js, Smart Contract Development, Ethereum, Polygon, IPFS, Hyperledger Fabric

AWARDS

First Place Audio Generation Hackathon

I won first place in a LabLab.ai audio generation hackathon. My team and I developed a Chrome extension that creates lo-fi hip-hop music based on the content of your browser.

Third Place AI Business Hackathon

We developed a self-enhancing AI for a LabLab.ai hackathon, earning third place. The AI combined Metaphor for search engine support, Claude for responses, and OpenAI for structured output, creating a business plan generator that performed comprehensive market research and evaluated startup viability.