

Ian Ellis

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SUMMARY

Software engineer specializing in agentic AI and full-stack application development, building reliable applications and backend services from architecture through deployment.

SKILLS

Agentic AI & Harness Engineering: LangGraph, Agentic Workflows, Multi-Agent Orchestration, MCP, Tool/Function Calling, Structured Outputs, RAG & Retrieval, Context Engineering, State & Memory Management, Guardrails & Permissions, Human-in-the-Loop Design, LLM APIs

Languages: Python, TypeScript, JavaScript, SQL, C++

Software Engineering: FastAPI, React, Next.js, Node.js & Express, REST APIs

Infrastructure & Data: AWS, Docker, PostgreSQL, CI/CD, Git

EXPERIENCE

Senior Software Engineering Associate

Aug 2025 – Aug 2026

Digital NEST

- Built AI-powered applications and backend services integrating Retrieval-Augmented Generation (RAG), MCP-based tools, LLM APIs, authentication, external APIs, and AWS infrastructure, with CI/CD pipelines supporting reliable deployment and iteration.
- Architected and delivered end-to-end software systems across frontend, backend, data, and cloud layers, translating operational requirements into application architecture, APIs, data models, authentication workflows, and deployable services.
- Led engineering teams of up to 12 contributors, setting technical direction, reviewing code, resolving implementation blockers, and coordinating delivery across multiple concurrent software initiatives.

Software Engineering Associate

Aug 2024 – Jul 2025

Digital NEST

- Built and deployed 4+ client and internal full-stack applications using React, Node.js, Express, MySQL, and REST APIs, delivering features from requirements through production.
- Engineered database-backed workflows, backend API routes, and reusable frontend components supporting operational workflows for staff, associates, clients, and community partners.
- Developed Python-based data analysis workflows to transform survey and program data into actionable findings used to guide product decisions and organizational reporting.

PROJECTS

Multi-Agent Invoice Processing System – Python, LLM APIs, Agent Orchestration

Aug 2026

- Built a multi-agent document processing system in Python, decomposing invoice intake, extraction, validation, and analysis across specialized agents coordinated through structured workflows.
- Integrated LLM-driven processing with structured outputs and tool-based workflows, converting unstructured invoice documents into validated, machine-readable data for downstream processing.
- Implemented validation and self-correction loops around model outputs to detect malformed or inconsistent results and improve reliability before workflow completion.

NESTCheck – React, TypeScript, Capacitor, Express, AWS

Jul 2026

- Led architecture and engineering delivery of a mobile attendance platform designed to serve thousands of Digital NEST members, coordinating 8+ engineers across frontend, backend, authentication, and data integration.
- Architected passwordless authentication using device-bound key pairs with non-exportable private keys protected by platform hardware-backed key stores (iOS Secure Enclave and Android hardware-backed Keystore), biometric-gated signing, identity-bound device registration, and in-person trust establishment for phishing-resistant login.
- Defined authentication flows and data contracts across mobile clients, backend services, staff systems, and identity infrastructure, resolving cross-system integration challenges throughout development.