

# Joseph McGarry

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## SKILLS

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JavaScript, TypeScript, Python, React, Next.js, React Native, Expo, Node.js, Express.js, Redux, Redux Toolkit, GraphQL, Bun, MongoDB, Mongoose, Redis, PostgreSQL, SQL, SQLite, FAISS, AWS, Docker, Vercel CI/CD, Git, REST API, OpenAI API, OpenAIEmbeddings, LangChain, RAG (Retrieval-Augmented Generation), Large Language Models (LLMs), Prompt Engineering, AJAX, HTML, CSS, SCSS, Tailwind CSS, Webpack, Vite, Jest, Supertest, React Testing Library

## EXPERIENCE

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### AI Developer

#### DataAnnotation

June 2024 - Present, Remote

- Trained large language models to generate deployment-ready JavaScript, TypeScript, Python, HTML, and CSS by crafting precise prompt templates and iteratively refining outputs, resulting in a 30% reduction in error rates.
- Reviewed and corrected AI-generated content against client-specific safety and truthfulness criteria by executing targeted validation protocols, cutting harmful or irrelevant outputs by 40%, and boosting overall reliability.
- Prompted models with complex coding scenarios until failure and debugged generated solutions, which honed functional robustness and drove a 30% improvement in model performance across use cases.
- Documented insights across a custom multi-axis evaluation framework to guide iterative enhancements, enabling a 20% reduction in output inconsistencies and aligning stakeholder expectations.
- Identified and resolved multi-language code defects through root-cause analysis, targeted fixes, and validation against requirements and edge cases.
- Facilitated multi-turn AI interactions to fine-tune contextual responses in code, text, and image modalities, delivering an uplift in client satisfaction.

### Full Stack Software Engineer

#### OS-Labs

December 2023 - June 2024, Remote

- Built a lightweight npm package for server-side GraphQL query caching for the Bun runtime, improving performance on repeat operations and lowering backend load.
- Integrated a Redis caching layer into GraphQL middleware with LFU eviction, reducing database reads and improving p95 latency by ~15x on repeated queries.
- Developed a React-based UI for query management and visualizations, which included the query, response times, and source.
- Engineered backend services using Express.js and MongoDB to parse and cache GraphQL queries, improving throughput and keeping p95 latency under 100ms.
- Deployed a fully automated CI/CD pipeline on Vercel for project documentation, eliminating 100% of manual deployment tasks, ensuring instant updates.
- Led weekly agile ceremonies with an international team of four engineers, achieving an 85% sprint completion rate.

## PROJECT

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### Employee Handbook Q&A Agent

[github.com/Joseph-McGarry/AgentDemo](https://github.com/Joseph-McGarry/AgentDemo)

- Built a CLI retrieval-augmented Q&A agent for PDFs with LangChain and FAISS, returning grounded answers with page-level citations and a strict refusal policy for out-of-scope queries.
- Increased recall and intent match by normalizing queries using a regex and LLM alias resolver, cached in a JSON file, and auto-refreshed when the source PDF changes.
- Improved answer quality with an MMR-based retriever and contextual compression to surface diverse, high-signal passages while reducing noise.
- Implemented a two-stage alias extractor (regex patterns plus LLM enrichment) with normalization to produce clean mappings from acronyms to their expanded forms.

### CPAPi | Medical Equipment Reminder App

[github.com/Joseph-McGarry/CPAPi](https://github.com/Joseph-McGarry/CPAPi)

- Shipped CPAPi, a React Native CRUD app for CPAP supply replacement tracking, currently beta tested via TestFlight by 7 users, with support for both light and dark mode UI.
- Built a local-first SQLite data layer using expo-sqlite, including DB initialization, default seeding, and a durable configuration via WAL journaling.
- Designed home screen prioritization logic by computing each reminder's next due date and sorting items "soonest due first" to surface urgent replacements immediately.
- Delivered a complete reminder experience: add/edit/delete, details (interval, next replacement, last replaced), and quick "confirm replaced" actions with per-reminder notification timing.

## EDUCATION

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### Bachelor of Arts in Wilderness Leadership & Experiential Education

Brevard College • NC

### Advanced Engineering Residency

Codesmith • 2023-2024