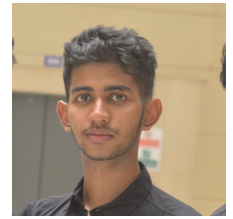


# Aaron Thomas

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Full Stack Developer and AI Systems Engineer

## Profile

Computer Science Engineering undergraduate specializing in scalable backend systems, modern web applications, and Retrieval-Augmented Generation (RAG) pipelines. Focused on building production-ready AI solutions and secure architectures with strong emphasis on performance, reliability, and maintainability.

## Technical Skills

- Core Skills:** Python, TypeScript/JavaScript, Node.js, REST API Design, Distributed Systems, RAG Pipelines, Vector Search (FAISS/Milvus), Docker, Kubernetes, CI/CD
- AI/ML Stack:** PyTorch, TensorFlow, Embeddings, LangGraph, LlamaIndex, vLLM, DeepSpeed, ONNX Runtime, MLflow
- Databases:** PostgreSQL, MongoDB, Redis, Firebase, Supabase
- Cloud & DevOps:** AWS, GCP, Azure, Cloud Functions, Docker Compose
- Frontend & Mobile:** Next.js, React, React Native, Tailwind CSS

## Professional Experience

### Software Engineering Intern

*Stride, K-Disc*

Thiruvananthapuram, KL

03/2026 - Present

- Developed scalable backend services and cloud functions for a Government of Kerala platform using Node.js and Firebase, supporting reliable service delivery under high-traffic usage.
- Implemented OWASP-aligned security testing, vulnerability assessment workflows, and release-level checks to improve protection of sensitive user data.
- Enhanced platform accessibility and interface performance by optimizing frontend workflows and reducing UI bottlenecks in key user journeys.

### AI System Engineer

*Sahrdya College of Engineering and Technology*

Kodakara, Kerala

02/2026 - 03/2026

- Built scalable data ingestion and ETL pipelines using Node.js and Python.
- Engineered a Retrieval-Augmented Generation (RAG) system with embeddings and vector search.
- Optimized the system for low latency and high throughput using Docker, Kubernetes, and CI/CD.

### Backend & Automation Developer

*Sahrdya College of Engineering and Technology*

Kodakara, Kerala

08/2025 - 12/2026

- Architected cloud-based backend systems using Firebase and Node.js.
- Built REST APIs and implemented workflow automation.
- Integrated CMS components and improved platform scalability, performance, and maintainability.

### App Developer

*Xqlusive Software*

Thrissur, KL

08/2025 - 12/2025

- Engineered a mobile-first application using React Native with an offline-first architecture to improve data consistency during intermittent connectivity.
- Integrated Supabase for real-time geolocation tracking and high-frequency data synchronization.

### Web Development Intern

*Pexcel Solutions*

New Zealand (Remote)

12/2024 - 06/2025

- Developed responsive frontend interfaces using React.js and Tailwind CSS, improving performance scores for international client projects.
- Integrated SEO best practices that increased organic search visibility for project deployments.

## Technical Projects

## AI-powered OSINT Platform

### *Aliens Eye*

- Developed an AI-driven platform for large-scale social media intelligence gathering, featuring parallel scraping engines.
- Achieved community adoption with **400+ stars on GitHub**, demonstrating technical reliability and utility.

## AI Chatbot System

### *Sahrdaya RAGX*

- Implemented and deployed a RAG-based chatbot with hybrid retrieval (BM25 + FAISS), embedding-based search, and ETL pipelines.
- Optimized the system for low-latency querying and scalable data processing for institutional use.

## Full-Stack Platform

### *Sahrdaya Website & CMS*

- Engineered and deployed the official college website with a scalable CMS architecture.
- Enabled efficient content management and a maintainable full-stack infrastructure for consistent updates.

## Malayalam Programming Language

### *Amma*

- Designed and implemented a custom interpreter in Rust to create a native-language programming environment.
- Engineered core constructs (variables, control flow, functions) to improve computing accessibility for native speakers.

## AI-Centric Cyber-Physical System

### *CPS*

- Engineered an AI-centric Cyber-Physical System (CPS) leveraging machine learning and real-time sensor streams for predictive monitoring and autonomous optimization of village-scale agriculture, energy, healthcare, crop health, and waste management.

## Leadership & Volunteering

- **Coders Club Lead (IEDC Sahrdaya):** Managed a community of student developers, organizing technical workshops and innovation challenges.
- **Mentor (TinkerHub):** Guided peer developers through project architecture and modern development workflows.
- **Technical Team (IEEE Sahrdaya):** Developed an attendance tracking system, flagship event websites, and event management applications.
- **ACES Webmaster (ACES Sahrdaya):** Developed event websites, event management software, and registration workflow systems.

## Education

### B.Tech Computer Science

#### *Sahrdaya College of Engineering*

Kodakara, KL

2023-2027

Relevant Coursework: Distributed Systems, Retrieval-Augmented Generation, Networking (OSI Models), Data Structures.