

SUMMARY

Creative junior CS student focused on distributed systems and live, event-driven software. Builder of *CodeCafé* (500+ GitHub stars, 6,000+ users) and open source contributor to Apache Cassandra. Skilled in full-stack development, DevOps, and consensus fundamentals; seeking challenging software-engineering internships.

EDUCATION

- **Gettysburg College**

Gettysburg, PA

*Bachelor of Science in Computer Science; Minor in Economics; GPA: 3.72/4.0*

*Expected Graduation: December 2026*

- **Honors:** Dean’s List (2023, 2024); Presidential Scholar
  - **Coursework:** OOP, Data Structures & Algorithms, Computer Organization, Databases, Discrete Math, Linear Algebra, Theory of Computation

EXPERIENCE

- **Software Engineering Intern**

Gettysburg, PA

*Gettysburg College*

*May 2025 - Aug 2025*

- **AI-powered coding tutor:** Built intelligent tutoring system similar to Cursor for students; implemented hint generation, code explanation, and step-by-step debugging assistance with real-time feedback.
  - **MCP server architecture:** Built gRPC-based Model Context Protocol server enabling multiple AI model integrations; created custom MCP implementations for AI tutors to access student code, project files, and debugging context in real-time.
  - **Academic integrity system:** Created React application for proctored coding assessments with keystroke pattern recording and window focus tracking; built timeline visualization for instructors to review coding session activity.
- **Computer Science Teaching Assistant**

Gettysburg, PA

*Gettysburg College*

*Fall 2023 – Spring 2024*

- **Student support:** Coached 60 intro-CS students in Python labs and office hours, lifting average exam scores by 25%.
  - **OOP instruction:** Led weekly walkthroughs on classes, inheritance, and polymorphism; 95% of students reported clearer understanding.

PROJECTS

- **CodeCafé — Live Collaborative Cloud IDE (Featured on Hacker News, 500+ ★)**

GitHub | Live | Demo

*Creator & Sole Maintainer*

*Jan 2025 – Present*

- **Custom OT engine:** Developed ground-up Operational Transformation core enabling conflict-free real-time collaboration like Google Docs; integrated with Java Spring Boot/WebSockets and Redis (AWS ElastiCache) with Lua scripts for 10+ concurrent users.
  - **Feature-rich cloud IDE:** Architected zero-setup, VS Code-style workspace with React, TypeScript, Tailwind CSS, Zustand, Monaco Editor, Xterm.js; delivers instant HTML/CSS/JS live preview for pair-programming and teaching.
  - **Containerized infra & CI/CD:** Dockerized frontend, backend, and Redis; GitHub Actions runs Jest/JUnit, builds images, and auto-deploys backend to AWS EC2 and frontend to Vercel.
  - **Secure delivery:** Nginx on EC2 handles TLS termination, WSS routing, and reverse-proxying; global DNS/CDN via Cloudflare; frontend fetches data with Axios over HTTPS.
- **Gedis — Redis Implementation & In-Memory Database Server**

GitHub

*Creator & Lead Developer*

*July 2025 – Present*

- **Custom protocol & concurrent server:** Built TCP server with binary protocol handling concurrent connections via Go goroutines; supports Redis-style commands (GET/SET/DEL) and sorted set operations (ZADD/ZREM/ZRANGE).
  - **Thread-safe data structures:** Implemented mutex-protected key-value store and B-tree indexed sorted sets using Google’s btree library, enabling O(log N) range queries and concurrent access patterns.

OPEN SOURCE

- **Apache Cassandra**

View Pull Requests

*Open Source Contributor*

*Aug 2025 – Present*

- **Database enhancement:** Improved Apache Cassandra’s configuration visibility by implementing JSON output for complex settings, enhancing programmatic access for operational tooling.
  - **Open source collaboration:** Collaborated with senior maintainers on design decisions, addressed code review feedback, and contributed comprehensive test coverage.

PROGRAMMING SKILLS

Languages	Java · Go · JavaScript · TypeScript · Python · Lua · SQL
Frontend	HTML · CSS · React · React Native · Tailwind CSS · Electron
Backend	Node.js · Spring / Spring Boot · FastAPI · REST · gRPC · WebSockets
Databases & Storage	PostgreSQL · MySQL · Cassandra · Redis · Amazon S3 · ElastiCache
Concepts	Distributed Systems · Consensus (Raft) · Event-Driven Architectures
Testing & DevOps	JUnit · Jest · Git/GitHub · Docker · Docker Compose · GitHub Actions