

OSEI JAPHET ACQUAH

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EDUCATION

Pomona College

B.A. in Computer Science; Mathematics — GPA: 3.7/4.0

Claremont, CA

Expected Graduation: May 2028

Relevant Coursework: Computer Systems, Computer Architecture (Fall 2026), Data Structures & Algorithms, Algorithm Analysis, Probability, Calculus III, Differential Equations & Modeling

TECHNICAL SKILLS

Languages: C, Python, Java, JavaScript/TypeScript, SQL, Haskell, HTML/CSS

Systems: Operating systems (processes, scheduling, memory), concurrency & multithreading, socket networking

Frameworks: React, React Native, Expo, Node.js, FastAPI (REST APIs), pandas, NumPy, SciPy, scikit-learn, Streamlit

Tools: Git/GitHub, Firebase (Firestore, Cloud Functions, Realtime DB, Storage), Google Maps SDK, pytest, JUnit

Artificial Intelligence: Gemini APIs (2.5 Flash Vision, Live API), prompt engineering, Edge AI integration, scikit-learn

EXPERIENCE

Asante Automation & Security (AASS) — *Software Engineering Intern*

March 2026 – Present

- Engineered low-level C software for IoT security and automation systems, applying process management, buffering, and concurrency to achieve reliable real-time communication across 100+ connected devices.
- Integrated LLM-powered event analysis and prompt engineering into IoT security pipelines, improving threat detection accuracy and reducing false alarms by 30%+ across smart-security deployments.
- Developed responsive React and TypeScript dashboards integrating REST APIs for real-time monitoring of IoT security events, device status, and automation workflows across 10+ client deployments.
- Contributed to code reviews, testing, and troubleshooting in an Agile workflow, using Git/GitHub for version control.

Gemini Glitch AI Hackathon (UCLA) — *Team Lead & Full-Stack Developer, PathSense*

March 2026

- Led a 4-person team to design and ship an AI-powered accessible-navigation web app in a single hackathon sprint, earning Best Use of Live API and placing Top 10 of 48+ teams.
- Integrated Google Maps SDK, Firebase Cloud Functions, Realtime Database, and Storage to deliver crowd-sourced accessibility reporting and GPS turn-by-turn navigation with live multi-user updates.
- Integrated Gemini 2.5 Flash Vision to deliver real-time scene descriptions and obstacle detection from live camera input, enabling hands-free, eyes-free navigation for mobility-impaired users.

Pomona College ITS — *Student Service Desk Consultant*

October 2024 – Present

- Diagnosed and resolved software, hardware, account, and network issues for students and faculty campus-wide.
- Authored 6 technical setup guides adopted as standard onboarding and self-service documentation, reducing repeat support requests.

PROJECTS

Systems Programming in C — *Computer Systems | C, Unix/Linux*

2025

- Implemented core operating-systems components in C, including a Unix shell (command parsing, process creation, I/O redirection), a CPU scheduler, and a dynamic memory allocator.
- Built a multithreaded producer-consumer system with bounded-buffer synchronization, a caching layer, and socket-based network communication, applying concurrency and low-level memory management.

Bible & Devotion App — *iOS/Android | React Native, Expo, Firebase, Gemini API*

In Active Development

- Identified a lack of structured daily engagement in leading Bible apps and designed a Duolingo-inspired progression system with 60+ lessons, lesson unlocking, and cross-device continuity to drive long-term retention.
- Architected an offline-first React Native (Expo) app with Firebase Firestore for cross-device progress sync, plus a data-driven content system publishing new studies without app-store releases.
- Integrated Gemini AI for conversational Bible study, personalized devotion generation, and contextual Scripture insights; added AI audio caching to cut response latency and cloud inference costs.

Container Design Optimization | *Python, NumPy, SciPy, pytest, Streamlit* | **Live Demo**

November 2025

- Built and deployed a Streamlit app applying Lagrange multiplier optimization to compute maximum container volumes under fixed surface-area constraints, enabling material-aware packaging design decisions.
- Designed a modular object-oriented architecture with unit and integration tests achieving 100% coverage (pytest).

LEADERSHIP & ACTIVITIES

The Ckodon Foundation — *Scholar & Mentor*

August 2023 – Present | Kumasi, Ghana

- Mentored 35+ students on SAT prep and college applications, achieving a 93% admission rate to top universities; expanded program reach to 250+ students and raised \$10,000+ for educational initiatives across Ghana.

Ashanti Regional Health Survey — *Team Lead*

January – March 2022 | Kumasi, Ghana

- Directed a 12-person team surveying 562 students across 34 schools on emotional health; delivered 2 recommendations adopted region-wide.