# Rainier Joshua Tabelon

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## EDUCATION

**University of Florida – Herbert Wertheim College of Engineering**    GPA: 3.98/4.0
*Bachelor of Science in Computer Science, Minor in Electrical Engineering*    Aug 2023 – May 2027

**Relevant Coursework:** Data Structures & Algorithms, Operating Systems, Computer Architecture, Software Engineering, Programming Language Concepts, Full Stack IoT Development, Computer Networks, Internet Storage Systems

## TECHNICAL SKILLS

**Languages:** Python, C++, Java, TypeScript, JavaScript, HTML, CSS, SQL, Bash
**Frameworks & Libraries:** React, Express, Jest, Supertest, Tailwind CSS, Recharts, Arcjet, Drizzle ORM, Socket.IO, Zod
**Tools:** AWS (EC2, S3), Docker, GitHub Actions, Linux, Neon, PostgreSQL, Firebase, Postman, Figma, Node, REST APIs, LLMs

## EXPERIENCE

**Software Engineering Intern**    Oct 2025 – Present
*AKIO AI*    *Gainesville, FL*
- Built an analytics dashboard aggregating thousands of speech events, enabling therapists to track client progress.
- Created modular React components, reducing code duplication and regression risk during feature expansion.
- Optimized rendering via memoization and batched updates, preventing UI stalls under high-frequency data updates.
- Engineered an asynchronous WebSocket audio transcription system for live therapy session note-taking, reducing speech-to-text latency by 3s without data loss.
- Added retry logic and connection health monitoring to handle network interruptions gracefully during live sessions.

**Lead Backend Engineer**    Sep 2025 – Present
*Society of Asian Scientists and Engineers (SASE)*    *Gainesville, FL*
- Led backend development on a 9-member Agile team, defining sprint scope and enforcing service ownership.
- Developed an alumni bank update pipeline that ingests all stored LinkedIn profiles via an MCP server, atomically updating 200+ organization-wide alumni records in a single sync.
- Implemented idempotent, conflict-safe upserts to ensure repeatable refreshes without data regression.

**Software Engineering Intern**    May 2025 – Jun 2025
*EDU Africa*    *Cape Town, South Africa*
- Built a MERN platform digitizing public-sector housing audits, replacing paper workflows across 30 municipalities.
- Implemented server-side pagination and filtering over a 600K+ record dataset, preventing client overfetching.
- Optimized frontend for <4GB RAM devices and unstable networks via deferred loading and asset minimization.

## PROJECTS

**CoreCRM** | *AWS EC2, Docker Compose, Jest, Supertest, PostgreSQL, Neon, Drizzle ORM, JWT, Arcjet*    [Source Code]
- Shipped a production CRM platform with strict relational integrity and role-based access control.
- Deployed on a single AWS EC2 instance with Nginx isolation and persistent volumes for crash-safe restarts.
- Automated a CI/CD pipeline with GitHub Actions to test, build, and deploy Dockerized services to a remote VM over SSH, cutting deployment time by 60% and ensuring reproducible dev-to-prod builds.
- Hardened public APIs against abuse using Arcjet, applying bot detection and sliding-window rate-limit policies.

**PicklePortal** | *Python, Ultralytics YOLOv8, ESP32, Arduino, C++, Firebase RTDB*    [Source Code]
- Engineered a distributed IoT system integrating ESP32 cameras, ML inference, and Firebase Realtime Database to track pickleball court occupancy and queues in real time.
- Streamed frames into a persistent YOLOv8 worker, eliminating process startup and cutting detection latency by 50%.
- Designed dual-mode ESP32 camera firmware (JPEG inference vs. MJPEG streaming) to optimize network bandwidth under tight memory and CPU constraints.