

# AARON CHU

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## EDUCATION

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### Rutgers University

BS Computer Engineering *GPA: 3.4*

New Brunswick, NJ

- May 2028

## WORK EXPERIENCE

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### Integem

*Drones Support Intern*

Cupertino, CA

June 2025 - August 2025

- Built and tested ESP32 based drones, uploading Python firmware via Thonny to validate hardware components such as motors, LEDs, and sensors.
- Integrated MaixCam modules and optical flow sensors to enable autonomous navigation features such as AprilTag detection and height stabilization.
- Simulated autonomous systems in an augmented reality environment, enabling real time interaction with computer-generated commands and virtual obstacles.
- Led a high-altitude Arduino IoT project that reached 10 km, sending GPS, weather, and custom telemetry data over Helium to an InfluxDB/Grafana dashboard for live tracking.

### University Nanosatellite Program

*Systems Integration Engineer*

New Brunswick, NJ

September 2025 - Present

- Validated I<sup>2</sup>C sensor communication and hardware interfaces on embedded Linux systems using diagnostic tools and ensured reliable multi sensor connectivity.
- Developed Python backend software on a Raspberry Pi to acquire process and log real time sensor data with accurate timestamping.
- Implemented multithreaded sensor polling to enable concurrent data acquisition which improved system reliability responsiveness and scalability.
- Designed and executed requirement based verification procedures to ensure synchronized sensor data collection and autonomous experiment scheduling.

### 2Fastt Run Club

*Technical Lead*

New Brunswick, NJ

September 2025 - Present

- Oversee all technical operations of the club, including project development and deployment workflows.
- Built and deployed a full-stack web application using React and TypeScript for the frontend and Supabase for backend data storage and authentication.
- Integrated the Resend API to enable secure client-to-server email functionality directly from the website.

## SKILLS

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Languages: Java, Python, MatLab, JavaScript, C, RISC-V, HTML, Verilog

Frameworks and Tools: Git, React, Docker

## PROJECTS

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### PocketLab

In a team of four, developed PocketLab, a real time IoT science platform that transforms a \$10 ESP32 into an interactive lab tool for students to run and visualize experiments through a React web app. Built real time data pipelines using WebSockets with visualization through Recharts and Three.js, including noise filtered sensor processing and offline fallback support. Designed a guided experiment system and responsive UI with authentication, data export, and backend integration to create a complete end to end learning platform.

### VeriStudent

Built VeriStudent, a full stack marketplace style app for college students using React / Expo on the frontend and a Supabase Postgres backend. Implemented Google OAuth with .edu email verification, a normalized schema for users plus textbook and sublet listings, and secure CRUD APIs for listing creation and management. Integrated Supabase Auth, Storage, and Realtime to support authenticated access, image uploads for listings, and in app chat between buyers and sellers, and deployed the web frontend to Vercel for fast, zero config hosting.