

# Jack Dao

[✉ jack.dao03@gmail.com](mailto:jack.dao03@gmail.com)

[LinkedIn](https://linkedin.com/in/jack-dao) [linkedin.com/in/jack-dao](https://linkedin.com/in/jack-dao)

[GitHub](https://github.com/jack-dao) [github.com/jack-dao](https://github.com/jack-dao)

[Website](https://jack-dao.com) [jack-dao.com](https://jack-dao.com)

## EDUCATION

### University of California, Santa Cruz

B.S. in Computer Science

Expected Grad: Jun 2027

GPA: 3.56

**Relevant Coursework:** Data Structures & Algorithms, Computer Systems & Design, Distributed Systems, Computer Architecture, Database Systems, Full Stack Web Development, Computer Networking, Machine Learning

## TECHNICAL SKILLS

**Languages:** JavaScript/TypeScript, HTML, CSS, SQL, Python, C, C++

**Frameworks and Libraries:** Jest, React, Angular, Node.js / Express, Firebase, NgRx, RxJS, Socket.IO, Elasticsearch

**Developer Tools:** PostgreSQL, Docker, Git, Linux, Vercel, Heroku

**Concepts:** REST API design, Client Server Architecture, Authentication and Authorization, Database Schema Design

## PROFESSIONAL EXPERIENCE

### Wilmers Lab, UC Santa Cruz

Sep 2025 – Present

Software Engineer Intern

Santa Cruz, CA

- Reduced experiment setup friction and simplified data review by building a Python desktop app for schedule configuration, start/stop control, and CSV log export.
- Cut command failures by 30% by implementing UART/Bluetooth command response in C with ACK/timeout handling and automatic retries.
- Prevented invalid runs and enabled 4+ researchers to run 10–15 weekly experiments by adding schedule import/export with validation and overlap checks.

### Knobull

Jun 2025 – Sep 2025

Software Engineer Intern

Remote

- Served 1,000+ students with real time mentor support by building a React single page app and responsive UI on top of a Node/Express, Socket.IO, and PostgreSQL backend.
- Delivered 5M+ academic sources and 5,000+ searches by scaling an Elasticsearch search engine with ad and SEO filtering.
- Increased subscription reliability and ease of access by integrating Stripe checkout and Firebase Authentication for cross device SSO.

### Tech4Good Lab, UC Santa Cruz

Mar 2025 – Sep 2025

Full Stack Web Developer

Santa Cruz, CA

- Cut student onboarding time 40% for 30+ users by building an Angular onboarding app with TypeScript and NgRx to replace manual forms and email chains.
- Improved students' ability to track commitments by developing a Firebase backed task manager with Angular and NgRx that centralized deadlines, reminders, and status.
- Improved reliability and security by implementing NgRx Store/Effects with optimistic updates, caching, and role based access using Firebase Authentication and Firestore rules.

## PROJECTS

### SlothLab: Game AI – Unity (C#), Python, PCG, LLM APIs

Apr 2025 – Jun 2025

- Developed a Unity tutorial generator that used LLM APIs to turn designer prompts into step by step in game instructions and context aware hints for players.
- Implemented box split grammar and heuristic rules for procedural terrain and settlement layouts so designers could quickly explore varied and believable maps.
- Prototyped Python PCG systems with backtracking, heuristics, and agent based rules, increasing level diversity by 20% across internal playtests and demo builds.

### SluGarbage: Google DSC Club Solution Challenge – Flutter, Firebase

Jan 2024 – Mar 2024

- Built a cross platform waste sorting app with a Firebase backend that onboarded 150+ users, cataloged 250+ items, and simplified local recycling decisions for students.
- Implemented Firebase Authentication with Firestore and Storage security rules plus offline caching to protect user data and keep the app usable when service is unstable.
- Integrated Google Maps SDK to surface 60+ drop off sites and in app directions, generating 500+ recycling lookups and 60+ verified visits during the initial pilot launch.