

# Henry J. Bonomolo

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## EDUCATION

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**University of California, Berkeley** Berkeley, CA

*Anticipated Graduation May 2027*

**B.A. in Computer Science; GPA: 3.68**

- **Relevant Coursework:** Data Structures, Algorithms, Artificial Intelligence, Linear Algebra, Discrete Mathematics.

## TECHNICAL EXPERIENCE

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**Research Assistant | Lawrence Berkeley National Lab** Berkeley, CA *September 2025 – Present*

- Conducting autonomous systems research in the Laser Technologies Group, focusing on advanced control automation.
- Learning and implementing LabVIEW for software to hardware interfacing and experimental system automation.

**React Native Developer | Mobile Developers of Berkeley** Berkeley, CA *Jan 2025 – Present*

- Developing for Baro, an early-stage startup, to design and implement web UI components and data workflows.
- Completed intensive training in React Native and Swift, focusing on ML and database integrations for mobile apps.

**Solar Data API Intern | Energeseque** Los Angeles, CA *Aug 2024 – May 2025*

- Built solar data APIs to process, clean, and aggregate irradiance datasets for machine learning energy forecast models.
- Developed a modular Java utility to normalize large JSON datasets into CSV formats, improving analysis efficiency.

**EKG Research Developer | University of Arizona ECE** Tucson, AZ *May 2023 – August 2024*

- Built an Android EKG application with sensor integration to compute RMSSD data in controlled human trials.
- Collaborated in a 3-person team to deliver a full mobile health data collection system for research deployment.

**President & Lead Programmer | FIRST Tech Challenge** Tucson, AZ *Aug 2020 – May 2024*

- Managed and directed a 20-member robotics team to 1st place at State Championships for three consecutive years.
- Architected an autonomous Java robotics codebase optimized for reliability and speed, achieving top state rankings.

## PRIMARY PROJECTS

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**Flokode | Agentic AI, Typescript, Visual Studio Code** *Oct 2025 – Present*

- AI code-agent platform leveraging multi-step workflows, tool-chain automation, and developer productivity agents.
- VS Code wrapper with a custom task UI for project workflow, refactoring, and autonomous development tasks.

**Spike Inclusive | Bluetooth Low Energy (BLE), React Native, Accessibility** *Jan 2023 – Present*

- iPad app allowing students with disabilities to program LEGO robots through a custom BLE command layer.
- Deployed on the App Store and implemented in district curricula, enabling 10+ challenged students to learn robotics.

**ARES | Python, Oracle Cloud Infrastructure, Supabase Studio** *Jan 2024 – Present*

- Real-time FTC robotics statistics dashboard app, website and Discord bot serving 500+ students nationwide.
- Built scalable backend on Oracle Cloud Infrastructure for match analytics and OPR rankings via REST API.

**FitRealm | React Native, Supabase, OpenAI API** *Jan 2025 – May 2025*

- Built a gamified fitness app combining AI-generated workouts, social guilds, user progress, and motivational feedback.
- Leveraged the OpenAI API to generate personalized quests, dynamic narratives, and adaptive reinforcement loops.

**Hoax Hunter | Swift, Create ML, Firebase Firestore** *Aug 2023 – Nov 2023*

- Fact-checking iOS app with a custom ML model trained on 100+ curated news articles; published on the App Store.

## LEADERSHIP & ACTIVITIES

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**Coach & Judge | FIRST LEGO League** Tucson, AZ *Aug 2020 – Present*

- Mentored 15+ teams in programming and design, with several first-place finishes at regional and state competitions.

**Lifeguard & Swim Instructor | City of Tucson** Tucson, AZ *Mar 2023 – Oct 2024*

- Taught swimming and water safety to 50+ students, emphasizing technique and risk awareness across varied ages.

## AWARDS & ACHIEVEMENTS

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**National Hispanic Scholar** (2023) · **AP Scholar with Distinction** (2022–24) — Academic scholar recognitions.

**Oracle Java Certified Foundations Associate** (2023) — Validates fluency in Java and object-oriented design.

**FIRST LEGO League Mentor & Coach Award** (2023) — Recognized for outstanding robotics mentorship.

## TECHNICAL SKILLS

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**Languages:** Java, Python, Swift, TypeScript, JavaScript, SQL, HTML/CSS, Scheme.

**Frameworks/Libraries:** React Native, React, Node.js, Express, FastAPI, Flask, NumPy, Pandas, Tailwind CSS.

**Tools/Platforms:** Supabase, Firebase, MongoDB, PostgreSQL, AWS, Oracle Cloud Infrastructure (OCI), Azure Cosmos DB, Docker, GitHub Actions, Cloudflare, Xcode, Postman, Vercel, Netlify, Google Cloud, REST + GraphQL APIs.