

Henry J. Bonomolo

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EDUCATION

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

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

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

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

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

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.