

# Henry J. Bonomolo

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## SUMMARY

To apply my technical expertise, problem-solving skills, and leadership in software engineering to advance my studies and career in STEM fields.

## EDUCATION

### University of California, Berkeley

Berkeley, CA

*B.A. in Computer Science; GPA: 3.68 (Major)*

*Anticipated May 2027*

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

## TECHNICAL EXPERIENCE

### Autonomous Systems Lab Assistant, Lawrence National Laboratory

Berkeley, CA

*September 2025 – Present*

- Led 20-member team to **1st place at State Championships (3 consecutive years)**.
- Architected autonomous **Java** codebase achieving top performance rankings statewide.

### React Native Developer, Mobile Developers of Berkeley

Berkeley, CA

*Aug 2024 – Present*

- Completed intensive training in **React Native** and **Swift**, focusing on **ML integrations** for production-ready mobile apps.

### Solar Data API Intern, Energesque

Los Angeles, CA

*Aug 2024 – May 2025*

- Built solar data **APIs and pipelines** processing irradiance data for **ML forecasting models**.
- Developed a **Java** program to convert JSON files to CSV/TSV for efficient data normalization.

### EKG Research Developer, Univ. of Arizona ECE/BME

Tucson, AZ

*May 2023 – Present*

- Developed an **Android EKG app** with **BLE integration** computing **RMSDD** for 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*

- Led 20-member team to **1st place at State Championships (3 consecutive years)**.
- Architected autonomous **Java** codebase achieving top performance rankings statewide.

## PRIMARY PROJECTS

### Flow Kode — Agentic AI, Typescript

*Aug 2023 – Nov 2023*

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

### Spike Inclusive — React Native, BLE, iOS

*Jan 2023 – Present*

- iPad app enabling students with disabilities to program LEGO robots via a custom **BLE command layer**.
- Published on the **App Store** and integrated in district curricula, serving **100+ students**.

### ARES — Python, ReactJS, Azure Cosmos DB

*Jan 2024 – Present*

- Real-time FTC statistics platform + Discord bot serving **500+ teams nationwide**.

- Built scalable backend on **Azure** for match analytics and OPR rankings via REST API.

### **FitRealm — React Native, Supabase, OpenAI API**

*Jan 2025 – May 2025*

- Developed a **gamified fitness app** with AI-generated workouts, social guilds, and progress tracking.
- Integrated the **OpenAI API** for personalized quest generation and behavior reinforcement.

### **Hoax Hunter — Swift, Create ML**

*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 teams to **first-place finishes** in programming and robot design at regional and state competitions.

### **Lifeguard & Swim Instructor, City of Tucson / Amphitheater HS**

Tucson, AZ

*Mar 2023 – Oct 2024*

- Taught swimming and water safety to **200+ students**.

## AWARDS & ACHIEVEMENTS

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**National Hispanic Scholar** (2023) · **AP Scholar with Distinction** (2022–24).

**Oracle Java Certified Foundations Associate** (2023) — Validates fluency in Java programming fundamentals.

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

## TECHNICAL SKILLS

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

**Frameworks:** React Native, React, Node.js, NumPy, Pandas.

**Tools/Platforms:** GitHub, Firebase, MongoDB, AWS KDS, Azure Cosmos, Supabase, Xcode, Android Studio, Cloud Databases.