

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 **RMSSD** 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

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

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

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.