

# Andrew Nuisud

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## EDUCATION

### Boston University

Expected May 2027

Bachelor of Arts in Mathematics and Computer Science

Boston, MA

Relevant Coursework: Linear Algebra, Discrete Structures, Computer Organization, Data Structures, Discrete Structures

## EXPERIENCE

### Founder & Software Engineer

Jan 2025 - Present

PixelTools LLC

Boston, MA

- Built Python arbitrage engine executing **100K+** trades with **<200ms** latency, boosting by **61%**, **294** trades/hr.
- Implemented concurrent API calls with asyncio/httpx, cutting request errors by **37%** and raising uptime by **9%**.
- Averaged **~\$300** monthly profit per user at **8.4%** margin via valuation algorithms and RAP-based pricing logic.
- Automated trade logging to Firebase via REST, enabling real-time analytics and Discord webhooks for **100+** users.
- Deployed Python client on VPS (Digital Ocean) with Firebase auth, enforcing 1-device license use for **112+** users.

### Teaching Assistant – Engineering Programming

Jan 2025 – May 2025

University of California

Remote

- Evaluated **700+** Python and C++ lab submissions for **90** students with **100%** turnaround using Gradescope.
- Hosted **12-hour** weekly sessions, resolving **~240** debugging issues with **94%** positive feedback across courses.
- Raised lab scores **18%** by creating structured rubrics and mentoring recursion, loops, and debugging in Py/C++.

### Software Development Intern

Aug 2023 – Jan 2024

Bay Valley Tech

Remote

- Deployed Flask service with server-side rendering + caching, cutting load times **42%** for hundreds of daily users.
- Reviewed **31 PRs** in **4-dev** team, reducing turnaround **26h** to **15h** and boosting success to **88%** with checks.
- Raised test coverage **24%** to **71%**, **~300** LOC, cutting release defects by adding **41** unit integration checks.

## PROJECTS

### Backend Banking System | Java, Spring Boot, SQL (Basic Queries, H2)

- Engineered a secure, scalable RESTful API with DTO validation, Spring Data JPA, and JWT role-based access, achieving 98.7% transaction success.
- Optimized performance with concurrent fund transfers, Redis caching, and H2 indexing, reducing latency to 84 ms and sustaining 5,000+ concurrent transactions under load.

### Self-Driving Line-Following Robot | C++, Embedded Systems, IR Sensors

- Built an autonomous robot to follow black-line tracks using IR sensors, PWM-tuned motor control, and direction memory, completing 2/2 trials in under 15s avg.
- Raised lost-line recovery from 61.2% to 79.5% and re-acquisition consistency by 30% by adding boost recovery and stuck-turn detection, reducing course failures by 22.4%.

### Outfit Matcher AI | Python, OpenAI API, Selenium, AWS

- Developed an AI tool to match outfits by combining GPT-4 Vision with perceptual hashing and Hamming distance, achieving 96.4% attribute extraction accuracy on 57 test cases.
- Scraped 1,482 Depop listings in 42 min using Selenium with dynamic waits, structuring metadata into 12 clothing categories for analysis.

## ACHIEVEMENTS

### Hewlett Packard Enterprise CodeWars Programming Competition

March 2023

3rd Place Winner - Annual Hackathon (Top 1.5% of 50+ groups)

- Placed 3rd out of 50+ groups at HPE's annual hackathon by solving competitive programming challenges with graph traversal, sorting, and dynamic programming in Java.
- Implemented binary trees, hash tables, and adjacency lists to optimize algorithmic performance and support efficient problem-solving in a 3-member team.

## TECHNICAL SKILLS

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

**Frameworks & Tools:** Spring Boot, Node.js, React.js, Next.js, Postgres, Docker, AWS, Firebase, GraphQL, Jenkins, Git

**Methodologies & OS:** Agile/Scrum, Jira, Linux, Microsoft Office Suite

**Python Libraries:** Pandas, NumPy, TensorFlow, OpenCV, Matplotlib

**Concepts:** Software Engineering, Frontend, Backend, Distributed Systems, Low-Latency Processing, REST APIs