

Matthew Arboleda
Los Angeles, California
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<https://ma0610.github.io/Matthew-Portfolio-Website/>

Computer Science student with research experience in machine learning, speech recognition, and AI security. First author at ACM Learning @Scale demonstration 2026 for edge based phoneme recognition on Android. Experienced in full-stack development with Python, React, Java, and SQL. Passionate about applying AI to real world problems.

EDUCATION

Occidental College **May 2026**
Bachelor of Arts in Computer Science Major
Cumulative GPA: 3.76/4.0

CERTIFICATES

• **IBM Developing Front-End Apps with React** **REC 2025**

EXPERIENCE

Occidental Research Project: ELPAC Phoneme Detection App, Los Angeles, CA **Jan 2026 - Present**

- Accepted as first author demo at ACM Learning @Scale 2026 presenting “Edge Phoneme Recognition for Children’s Speech through Age-Aware Training”, at an international educational technology conference
- Developed Android application leveraging WavLM ensemble phoneme model to provide real-time speech analysis for ELPAC test preparation
- Integrated pre-trained phoneme recognition model with Android microphone input to enable automatic phoneme detection, feedback, identifying student pronunciation gaps, and tracking progress on targeted phonemes

Teacher’s Assistant at Occidental College, Los Angeles, CA **Feb 2025 - Present**

- Graded and provided detailed written feedback for problem sets in Math Foundations of Computer Science course
- Coordinated with course professor to maintain consistent grading standards and communicate student progress throughout the semester
- Held office hours to provide individualized academic support for students on discrete mathematics, logic, and proof writing concepts covered in the course

Algoverse AI Research, Remote **Jul 2025 - Oct 2025**

- Conducted research on multi-agent system security vulnerabilities using encryption-based jailbreak techniques across OpenAI, Anthropic, and Gemini LLMs
- Collaborated with a cross-functional research team to design and implement automated evaluation pipelines for benchmarking adversarial prompt robustness and attack success rates across multiple LLMs
- Developed a benchmarking framework to systematically assess jailbreak resistance in LLMs, comparing model behavior under varied encryption based attack vectors

Scheduling Website, Los Angeles, CA **Aug 2024 - Dec 2024**

- Led team to design a course scheduling website for Occidental Biochemistry department, enhancing inter-department communication
- Developed front end logic and SQLAlchemy database schema to facilitate data transfer
- Worked alongside clients to ensure website met all functional requirements through iterative feedback sessions

AWARDS & SCHOLARSHIPS

Occidental Dean’s List **Aug 2022 - Present**

Cosmos Scholar (NSF-funded scholarship program for STEM students) **Jun 2023 - Present**

SKILLS

- **Languages/Frameworks:** Java, Python, PyTorch, Flask, Javascript, React, SQL, Linux, Windows, Git
- **Tools:** Render, Supabase, Vercel, Figma, Claude