

# ALEXANDER MNATSAKANIAN

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## EDUCATION

**University of California, Los Angeles (UCLA) – GPA: 4.0**

Bachelor's of Science in Computer Science

*Los Angeles, CA*

*Aug 2025 - June 2027*

*Relevant Coursework: Data Structures, Logic Design, Algorithms, Systems Programming*

**Pasadena City College – GPA: 3.96**

Associate's degree in Computer Science

*Pasadena, CA*

*Aug 2023 - June 2025*

*Completed foundational coursework in programming, discrete math, and computer organization.*

## EXPERIENCE

**Freeroam LLC (freeroam.ai)**

*Los Angeles, CA*

Lead Software Engineer

*Jan 2024 – Present*

- Designed and deployed AI-driven voice automation and analytics platforms using Next.js, Node.js, MySQL, and OpenAI APIs.
- Supporting over 10,000 automated voice interactions monthly and improving campaign response times by 45%.
- Built scalable backend architectures with secure API endpoints, asynchronous task queues, and dataset query pipelines optimized for telecom analytics.
- Engineered end-to-end cloud security infrastructure leveraging HTTPS, SSL/TLS, Azure Key Vault, and IDS/IPS systems integrated with SIEM for proactive threat detection and data integrity.
- Managed 10+ concurrent client integrations, implementing API-based AI voice modeling solutions that streamlined workflows and enhanced automation performance.

**Rafana Inc**

*Pasadena, CA*

Front-End Software Engineer

*April 2021 – April 2023*

- Engineered responsive, high-performance web interfaces using HTML, CSS, and JavaScript, ensuring cross-browser compatibility and adherence to accessibility standards.
- Optimized UI components and design workflows, enhancing load efficiency, responsiveness, and overall user engagement across client platforms.
- Collaborated with design and backend teams to translate branding guidelines into functional, production-ready interfaces.

## PROJECTS

**AI Voice Agent Platform – (Next.js, Node.js, MySQL, Vapi, OpenAI API)**

*Remote*

Project Lead

*April 2024*

- Developed a multi-tenant SaaS platform enabling businesses to deploy AI agents for automated voice calls, campaign management, and analytics. Generated \$10,000 in revenue through MVP within a 3-month span.
- Designed an event-driven backend with asynchronous queues and WebSocket-based communication, improving task throughput by 40% under heavy concurrent usage.
- Integrated real-time billing and credit management systems with MySQL transactions and RESTful APIs for dynamic usage tracking.

**E-Rate Dataset Query Tool – (Node.js, Socrata API, OpenAI)**

*Remote*

Creator / Founder

*June 2025*

- Created an AI-assisted dataset query engine that interprets natural-language input to retrieve and visualize government telecom data automatically.
- Reduced query response latency by 60% using indexed caching and parallelized API calls.
- Implemented a semantic search layer leveraging OpenAI embeddings to match user intent with complex dataset fields, improving accuracy by ~35%.

**Automated Education Project – (Python, LLM Integration, ElevenLabs, Manim)**

*Remote*

Project Lead

*Aug 2025*

- Engineered a two-model AI system that converts natural-language math explanations into animated video lessons with synthesized voiceovers.
- Combined a language generation model (for explanation scripting) and a visual animation engine (Manim) to produce dynamic, synchronized content.
- Reduced content creation time by 85% compared to manual scripting workflows, enabling scalable educational content generation.

## SKILLS

- **Applications:** VS Code, Git, Linux OS, Docker, PowerShell, AWS, Microsoft Azure, VMware, Endpoint Security, DNS & TCP Security, HTTPS, SSL/TLS, IDS/IPS, SIEM, GRC, ISO 27001 & NIST Framework, Adobe Suite, Blender, React, Next.js, Node.js, Express, Tailwind, MySQL, Vapi API, OpenAI API, Socrata API, Manim
- **Programming Languages:** Python, C++, JavaScript, HTML, CSS, SQL      **Languages:** English, Armenian, Swedish