

Alan Roybal

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EDUCATION

University of Texas at Dallas

Bachelor of Science in Computer Science

Expected Graduation: December 2026

GPA: 3.7/4.00

- **Coursework:** Data Structures & Algorithms, Operating Systems, Databases, Machine Learning, Data Analysis.

EXPERIENCE

NorthMark Compute and Cloud

Artificial Intelligence Engineering Intern

June 2026 – Present

Dallas, TX

- Built a Model Context Protocol (MCP) gateway brokering secure large language model access for 12+ internal tools.
- Shipped an evaluation harness automating large language model validation over 30+ benchmark suites pre-launch.
- Benchmarked frontier models on-premise to guide leadership AI deployment strategy and enforce data governance.

Townes & Co.

Founding Engineer

April 2026 – Present

Dallas, TX

- Shipped an artificial intelligence platform end-to-end as a founding engineer on a small team, ingestion to deploy.
- Built automated data-ingestion integrations processing 5M+ records per day for the primary enterprise customer.

General Motors Financial

Software Engineering Intern

May 2025 – May 2026

Arlington, TX

- Engineered a Python and C# test suite automating 50+ API endpoints on Azure DevOps, saving 10 hours/week.
- Built an internal Model Context Protocol (MCP) agent with sub-50ms tool routing and skill injection for developers.
- Led training sessions and developer office hours, doubling organization-wide AI tool adoption from 7 to 15 teams.
- Integrated a SOAP-to-REST API layer across 10 endpoints, driving a company-wide shift to automated workflows.
- Promoted to lead a 7-person team; ran daily standups and mentored engineers, lifting velocity by an estimated 25%.

PROJECTS

Earth2Echo | Python, FastAPI, React, WebSockets, Generative AI, Multimodal LLM

- Architected an agent layer managing tool integration and model state in a multimodal large language model pipeline.
- Selected for the Google Gemini Developer Spotlight; contributions shipped in a production generative-audio model.
- Built a WebSocket streaming pipeline syncing media, cutting end-to-end inference latency by 50% to sub-400ms.

Lyrria Studio | Electron, React, TypeScript, Zustand, Generative Audio, Google GenAI

- Built a generative-audio application streaming a node graph into a real-time large language model in sub-300ms.
- Shipped a live mode sustaining gapless 48kHz audio playback with per-track automation and a 16-track timeline.

CoTTY | Zig, Swift, SwiftUI, Metal, CRDT, TCP, PTY

- Engineered a real-time collaborative terminal with a conflict-free replicated data type (CRDT) syncing 4+ live peers.
- Built a GPU rendering pipeline rasterizing at 60fps+ with real-time multi-user cursors over peer-to-peer transport.

LEADERSHIP & SOCIAL IMPACT

Director of HackUTD

Association for Computing Machinery (nonprofit) | Largest 24-hr Hackathon in North America

January 2024 – Present

Dallas, TX

- Taught 8 hands-on developer workshops to 500+ students, building technical skills for non-technical audiences.
- Directed a 40+ nonprofit volunteer team delivering a 1,000+ participant community event on a six-figure budget.
- Shipped the open-source Jury platform to 10 organizations, owning onboarding and full handoff documentation.
- Exercised judgment over vendor, sponsor, and budget decisions, scoping projects from stakeholder needs to launch.

SKILLS

Languages: Python, JavaScript, TypeScript, SQL, Java, C++, C#, Swift, Rust, HTML, CSS

AI & Large Language Models: Anthropic Claude, Model Context Protocol (MCP), Agent Frameworks, Evaluation Harnesses (Evals), Retrieval-Augmented Generation (RAG), Prompt Engineering, Chatbot Development

Certifications: AWS ML Specialist, AWS Solutions Architect Associate, NVIDIA GenAI & LLM Engineer

Frameworks: React, Next.js, Node.js, Flask, FastAPI, Django, Spring Boot

Cloud & Tools: Amazon Web Services (AWS), Google Cloud Platform (GCP), Microsoft Azure, Docker, Git, PostgreSQL

Integration & Automation: Application Programming Interfaces (APIs), REST, WebSockets, Webhooks, Zapier, Airtable, Data Analysis