# Isaac Chacko

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## EDUCATION

**Texas A&M University, Engineering Honors**  College Station, TX
*B.S. Computer Science, Applied Mathematics.*  *May 2027*
- Relevant Coursework: Data Structures & Algorithms, Computer Organization, Real Analysis.
- Awards: National Merit Winner, Texas A&M President's Endowed Scholar, Dean's Honor Roll.

## EXPERIENCE

**Logistics Director**  October 2025 – Present
*TIDAL*  *College Station, TX*
- Ran one of the largest hackathons in Texas A&M by organizing sponsorship/venue procurement for **300+** hackers.
- Developed TIDAL Hack 2025 website to handle real-time updates by optimizing media for concurrent viewership.
- Led various hackathon workshops from our sponsors and directed mentors/judges with instruction when necessary.

**Undergraduate TA**  August 2025 – Present
*Texas A&M Department of Computer Science*  *College Station, TX*
- Developed critical plagiarism software as a part of the plagiarism subteam to verify **600+** student submissions using C++ fingerprinting algorithms and AI detection software.
- Mentored fall cohort through "Intro to C++", within weekly lab sessions/office hours, and clarified student misunderstandings between C++98, C++11, C++17 version differences, Makefiles, and stack traces via GDB.

**Backend Engineer**  May 2025 – August 2025
*SISO Engineering*  *Houston, TX*
- Engineered query optimizations to cut **300m+** row query run times by **73%** and improved real-time streaming scalability across **40+** international edge devices.
- Blew the whistle and saved **1.7 million records** of streaming data via preventative data validation measures.
- Created infrastructure-as-code with Terraform to allow for rapid deployment/provisioning of Grafana workspaces and Azure database resources to standardize operations for present and future customers.

## PROJECTS

**HackerStats** | *Neo4j, Selenium, AWS EC2, NextJS*  August 2025
- Provisioned AWC EC2 resources to host multithreaded Selenium instances across a shared queue to engage in recursive BFS web-crawling of global hackathon submissions via Devpost.
- Devised an automated job that utilizes natural language models and topic analysis to vectorize newly ingested hackathon submissions by their text description.
- Achieved real-time retrieval by precomputing and efficiently storing high-dimensional devpost vectors, leading to **sub-100ms** similarity searches.

**Eulerelo** | *TypeScript, Tailwind CSS, Prisma, PostgreSQL, Railway*  March 2025
- Developing a full-stack web app enabling real-time math duels between users, powered by a custom TypeScript socket server, a Prisma-hosted PostgreSQL database, and a Railway deployment for CI/CD within a mono-repository.
- Sole designer of backend infrastructure: utilized singleton patterns, socket connections, and mutex locks to ensure robust matchmaking, instant solution evaluation, and high-concurrency performance.

**Presentation Coach** | *Python, React, NextJS*  September 2024
- Won HowdyHack 2024 by building a analytics tool to track and visualize real-time audience retention, empowering presenters with actionable feedback on engagement.
- Leveraged machine vision and speech vectorization to analyze the slide deck and speaker delivery, surfacing key insights under time constraints.

## TECHNICAL SKILLS

**Languages:** TypeScript, JavaScript, Python, C++, KQL, SQL, Java, HTML, CSS, Clojure, ClojureScript, Lua
**Technologies:** Linux, Git, ADX, Azure DevOps, Prisma, Redis, NextJS, Grafana, PowerBI, Godot, Vercel, Django
**Emphasis:** Databases, Backend Web Development, Data Analysis, Game Design/Development