

# RANI SARO

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## EDUCATION

**University of California, Davis**

*Bachelor of Science in Computer Science*

Sep 2023 – Dec 2025

## EXPERIENCE

**Lead Engineer** | ASUCD (Part-Time, 15 hrs/wk)

Oct 2024 – Present

- Built a data visualization platform, processing **7M+** PostgreSQL records for transportation insights
- Owned the roadmap, sprints, and code reviews for a 5-person team, shipping 3 major features on schedule
- Designed and deployed an AWS Lambda backend with **20+** API endpoints, reducing data processing time by **40%**
- Migrated PostgreSQL database to AWS EC2, halving query time to **200ms** with better CPU/RAM and tuning

**Software Engineer Intern** | AggieWorks (Part-Time, 10 hrs/wk)

Oct 2024 – Present

- Developed a **course search engine**, built ETL pipelines using PySpark and Playwright, extracting **242K+** reviews
- Scaled product to **+400k** views and **10.5K+** unique users by building site using Vite, FastAPI and Oracle Cloud
- Optimized fetching with TanStack Query and Cloudflare caching, reducing API calls and cutting load times by **11x**

**Software Developer Intern** | CodeLab

Oct 2023 – Jun 2024

- Created a web app with a spaced-repetition engine (SRS) backend, to aid students' study habits
- Partnered with designers to implement features from Figma wireframes using TypeScript, Tailwind and React.js
- Supported **+33k** users by implementing React components and REST API endpoints in Node and Express.js

## PROJECTS

**Sixth-Degree** | Go, TypeScript

- Architected a Go backend to visualize BFS shortest paths on **10k+ node graphs**, streaming traversal via WebSockets
- Built a concurrent Go pipeline with worker pools to process 10k+ Wikipedia pages into a graph in **~3.4 minutes**
- Shipped a minimal, secure **~5 MB Docker image** using a multi-stage Dockerfile (Go binary + Node build → scratch)
- Automated CI/CD with GitHub Actions to deploy to Google Cloud Run using keyless Workload Identity Federation

**Scrappy** | Typescript, Next.js, Supabase

- Engineered a real-time task board, achieving **80% adoption** among 90 UC Davis Hacknight members in 5 weeks
- Supported **20+ concurrent sessions** using Supabase Realtime and query optimizations for low-latency updates
- Improved performance by **40%** using SSR and client-side caching, reducing re-renders with Next.js best practices

**Occurrence Trivia** | Typescript, Next.js, Tailwind, Firebase

- Launched a full-stack trivia app with Firebase and Next.js, enabling real-time database interaction for **150+** users
- Integrated Firebase Authentication with OAuth 2.0 for seamless, secure logins with **100%** uptime
- Introduced a daily challenge with a scoring system and leaderboard, increasing repeat engagement by **55%**

## TECHNICAL SKILLS

**Languages:** Go (Golang), Python, Typescript, Javascript, Java, SQL (Postgres), C++, HTML/CSS

**Frameworks:** React, Node.js, Flask, FastAPI, Next.js, Express.js

**Developer Tools:** Git, Github Actions, Docker, AWS, EC2, Lambda, Google Cloud, Postman, Prisma, MongoDB

**Libraries:** Tailwind CSS, Firebase, Supabase