

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
- Led roadmap, sprints, code reviews for a 5-person team, shipping stat summary and peak analysis features on time
- 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 **+450k** views and **11.5K+** 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**
- Deployed a minimal, secure **~5 MB Docker image** to Google Cloud Run via a CI/CD pipeline in GitHub Actions
- Resolved a **5-minute P95 latency to 15s** under a 500-user load by re-architecting the WebSocket data pipeline

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
- Leveraged Firebase Authentication with OAuth 2.0 for a secure and seamless social sign-on experience for users
- 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