

RAHUL TANGSALI

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TECHNICAL SKILLS

C++, TypeScript, JavaScript, Python, Swift, SQL, React, Next.js, Angular, React Native, React Native Web, SwiftUI, Tailwind, ShadCn, Bootstrap, Redux Toolkit, Node.js, Express.js, Django, Flask, Tensorflow, Pytorch, GraphQL, Socket.io, Jest, Cypress, JMeter, Hasura, PostgreSQL, MongoDB, MySQL, SQLite, DynamoDB, Prisma, Sequelize, Docker, Firebase, AWS Amplify, Amazon S3, AWS RDS, Google Cloud, Appwrite, Wordpress, Cursor, Windsurf

WORK EXPERIENCE

Sumeru Inc.

Los Angeles, CA

Full Stack Developer Intern

01/2025 - 05/2025 (4 Months)

- Delivered a unified React Native Web front-end with a Node.js + Sequelize/MySQL back-end for Jyoti's Vastu Academy (25 K+ MAU), providing a seamless mobile-web experience.
- Spearheaded the PHP/Laravel → Node.js/React migration, boosting performance and scalability, deployed on AWS with RDS.
- Instituted automated test suites—Jest & Cypress (>80% coverage), JMeter load, Postman functional—to catch regressions and performance bottlenecks before release.

Sara Technology Inc.

Los Angeles, CA

Software Engineer

05/2024 - 12/2024 (7 Months)

- Architected animated onboarding & practice flows in React Native, integrating audio playback and yielding 25% faster page transitions while piloting in 3 schools and 5 speech-therapy clinics within 2 months.
- Built secure AWS Amplify + GraphQL backend and ML-driven authentication pipeline, cutting average login times by 40% and boosting therapy accuracy and user engagement by 30%.
- Revamped the React site end-to-end, supporting an AI speech-therapy platform that won a 1st-place Columbia School grant.

iMocha

Pune, India

Software Engineering Intern

01/2022 - 12/2022 (12 Months)

- Built ML-driven, real-time interview-assessment system using Azure to score spoken answers, modernizing candidate evaluation.
- Refactored the NLP company stack from LUIS to Azure CLU, tripling intent-detection accuracy and enabling seamless scale-out.
- Delivered a responsive Angular and Node.js web app, accelerating feature delivery and elevating user experience.

EDUCATION

University of Southern California

Los Angeles, CA

Masters in Computer Science (GPA: 3.68/4)

08/2023 - 05/2025

Pune Institute of Computer Technology

Pune, India

Bachelors in Computer Engineering (GPA: 3.73/4)

08/2019 - 06/2023

PROJECTS

Self-Hosted AI Text-to-Speech & Voice Conversion Platform

PyTorch, Next.js, AWS, Inngest, FastAPI, Docker, StyleTTS2

- Containerized and deployed three AI microservices—text-to-speech (StyleTTS2), voice conversion (SeedVC) and sound-effect generation—via Docker Compose on GPU-powered AWS EC2, fine-tuning models on 10–15 min of custom audio and using Inngest to queue and throttle requests.
- Developed a secure full-stack solution with a Next.js frontend, Node.js proxy and FastAPI backends, integrating S3 pre-signed URLs, AWS IAM roles for model uploads/downloads, and a credits-based workflow.
- Link to view project: <https://github.com/rahuul2001/elevenlabs-clone>

AI-Powered Personal Finance Platform

Next.js, Radix UI, Prisma, PostgreSQL, Clerk, Inngest, Gemini API, Recharts

- Built a dynamic, mobile-responsive Next.js dashboard with Radix UI and Clerk auth, delivering personalized, AI-driven finance insights and automated monthly reports via Gemini API and Inngest cron jobs for recurring transactions and budget alerts.
- Implemented an ML-powered receipt scanner for seamless expense capture, integrated Prisma ORM with PostgreSQL for reliable data storage, and visualized spending trends through interactive Recharts charts.
- Link to view project: <https://ai-finance-manager-qlaq.vercel.app/>

PostCard: HyperLogLog Integration for PostgreSQL

C, PostgreSQL Internals, HyperLogLog, Query Optimization

- Built HLL_JOIN, a HyperLogLog-based estimator in PostgreSQL's planner and executor, which slashes memory use by 90%, keeps errors under 0.5% on joins of up to 500K rows, and speeds up multi-table planning by 4×.
- Enhanced PostgreSQL internals—parser, data structures, and execution engine—to support 16-bit HLL sketches with a 64 KB limit, and authored a suite of over 1,000 unit, integration, and performance tests to validate scale to 50 million rows.
- Link to view project: <https://github.com/rahuul2001/PostCARD>

Credit Risk Classifier Optimization

Python, CatBoost, LightGBM, XGBoost, PyTorch, Scikit-learn, Polars

- Built a loan default prediction pipeline with CatBoost, LightGBM, XGBoost, and a PyTorch neural-network selector in a stratified K-fold ensemble, reaching a 0.75 AUC.
- Streamlined data processing in Polars for imputation, encoding, and feature selection—cutting memory usage by 40%—and applied ablation studies plus hyperparameter tuning to boost high-risk recall by 10%.