RAMSUNDAR K G

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EDUCATION

Master of Science in Computer Engineering (GPA: 3.85)   Sep 2023 – Mar 2025

University of California, Riverside, CA

Relevant Coursework: Advanced Operating Systems, Artificial Intelligence, Advanced Database Management Systems, Advanced Computer Architecture

Bachelor of Engineering in Computer Science and Engineering   Aug 2019 – May 2023

Anna University, Chennai, India

Relevant Coursework: Data Structures, Object Oriented Analysis and Design, Software Engineering Principles, Algorithm Analysis

WORK EXPERIENCE

Software Engineer   May 2025 – Present

One Community Global, San Gabriel, CA

- Built and maintained 10+ backend services and production features in a React.js, Node.js, Express.js, and MongoDB stack for a volunteer management and tracking app serving 1,000+ users, collaborating with cross-functional teams to ship stable production releases.
- Improved reliability of admin features by debugging backend APIs and MongoDB queries/data, resolving data-integrity issues and code defects, and introducing validation and cleanup patterns that reduced recurring admin dashboard failures in production.
- Improved user-facing UI performance in React/Redux by stabilizing state flows and tuning renders, delivering a 30% production performance improvement.
- Wrote/maintained unit and integration tests for critical API flows to prevent regressions and support safer releases.

PROJECTS

LeasePilot – Cloud-Based Auto Leasing Solution

- Developed a end-to-end cloud-hosted vehicle leasing platform using React, Django Framework, and PostgreSQL, with multi-role access (user, dealer, admin) to support real-time recommendations, lease applications, and inventory management.
- Integrated AWS S3 for image and document storage, AWS RDS (PostgreSQL) for relational data persistence, and configured Route 53 for custom domain routing and HTTPS via ACM certificates.
- Containerized the full stack app with Docker and deployed the backend on AWS EC2 using Gunicorn and Nginx for a stable, production-ready environment.

ResumeRoaster – Resume Feedback Platform

- Architected an AWS-hosted resume review platform (React, Flask, PostgreSQL on S3/RDS/EC2) with authenticated PDF uploads, peer browsing, and anonymous feedback.
- Implemented pre-signed S3 upload APIs with file validation and UUID tokens in PostgreSQL to avoid guessable IDs and support deletion, handling 500+ uploads securely.
- Containerized the full stack with Docker and managed production deployment on AWS EC2 for scalable access.

DuoStream – Dual-Presenter Live Streaming Application

- Engineered a dual-presenter live streaming application using React, Node.js, Express, WebSockets, Mediasoup, and WebRTC, scaling to 70+ participants with consistent sub-200ms latency.
- Implemented a Node.js/Express backend with Socket.IO for real-time signaling, Mediasoup server/session management, and RESTful APIs for room creation.
- Integrated Supabase for authentication and real-time participant tracking, enforcing role-based permissions (presenter, participant) and hardening access control across all live rooms.

MiniCov – Optimized Test Suite Generator

- Orchestrated an automated test-optimization system for 7 C programs, reducing test suite size by 99.87% while preserving 100% coverage and cutting execution time by 90%.
- Engineered a gcov-based data pipeline that processed 20,000+ test cases end-to-end, automating coverage collection, prioritization, and reporting.

SupplyHub – Supplier-Buyer Marketplace

- Architected a full-stack B2B order platform using Next.js, React, TypeScript, and MongoDB, implementing SKU-based intelligent splitting to automate multi-supplier distribution.
- Automated order split confirmation and tracking dashboards for buyers and suppliers, reducing manual effort by 80%.

TECHNICAL SKILLS

- **Languages**: JavaScript/TypeScript, Java, Python, Kotlin, SQL, C++, C
- **Backend & Cloud**: Node.js, Express.js, REST APIs, Flask, Django, AWS, Microsoft Azure, GCP, Docker, GraphQL, Apollo, WebRTC
- **Frontend**: React.js, Angular, Next.js, Electron.js, HTML/CSS, Redux, WebSockets, Tailwind CSS, Figma
- **Databases**: PostgreSQL, SQL, MongoDB, Firebase
- **Developer Tools**: Git (version control), Github, Postman, Linux, IntelliJ IDEA, VS Code, Agile/Scrum, React Testing Library, Cypress, Jest