Arun Sakthi Anand M

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EDUCATION

Bachelor of Technology in Electrical Engineering   Hyderabad, India
Indian Institute of Technology – Hyderabad   *Aug. 2019 – May. 2023*

EXPERIENCE

Software Development Engineer, *Air India (Tata Group)*   June 2023 – Present
- Built a high-throughput, distributed push-notification microservice using Spring Boot, Firebase, APNs, achieving **3x lower latency** and **60%** infra cost reduction through non-blocking I/O, and batched message pipelines.
- Re-architected the Preference Management System using PostgreSQL + Redis, replacing Couchbase and cutting infra spend from 1.6L to 85K while improving lookup performance by 30% via optimized data modeling and cache-first access patterns.
- Designed a self-service **Notification Dashboard**, integrating backend APIs with secure RBAC and reducing campaign launch cycles from hours to minutes by removing direct DB operations.
- Migrated core backend services during the Air India–Vistara integration, scaling systems to multi-terabyte datasets and ensuring consistency, zero-downtime rollouts, and reliability across distributed microservices.
- Enhanced the airline search experience by developing UI components (StencilJS + AngularJS) and leading the upgrade from **Angular 13 to 18**, improving stability, performance, and maintainability.
- Upgraded a legacy service from **Java 11 to Java 21**, eliminating redundant DB calls and adopting virtual threads to improve concurrency, boost throughput, and reduce system load under peak traffic.

Software Developer Intern, *KPIT Technologies*   May 2022 – July 2022
- Worked on **QEMU Spice Protocols** for remote VM access.

PROJECTS

Interview Organizer Platform (Live Demo) | *Spring Boot • Angular 20 • MongoDB • AWS*
- Developed a scalable interview management system using **Spring Boot 3.5**, **Angular 20**, and **MongoDB**, exposing 50+ REST APIs with multi-tenant access control and secure RBAC.
- Designed cloud architecture using AWS Elastic Beanstalk, S3, CloudFront, and MongoDB Atlas, delivering **99.9% uptime**, auto-scaling, and globally low-latency API responses.
- Implemented secure auth with **JWT** (access/refresh), Spring Security, BCrypt hashing, and method-level authorization; added Angular HTTP interceptors for seamless session handling.
- Built analytics workflows using **MongoDB aggregation**, optimized Angular performance with signals, OnPush, and lazy loading, and implemented secure S3 file access via presigned URLs.
- Set up CI/CD with **GitHub Actions** using parallel jobs, environment-specific pipelines, artifact caching, and automated CloudFront cache invalidation.

Voice-Controlled Toy Car | *Deep Learning • Signal Processing • Python • Arduino*
- Built voice-driven toy car executing via an **LSTM** model (90% accuracy) using **MFCC**-based audio features.
- Integrated ML inference with Arduino to control DC motors through H-bridge circuit, demonstrating end-to-end hardware–AI integration.

TECHNICAL SKILLS

Backend: Java, Spring Boot, Spring Security, JPA/Hibernate, Microservices
Frontend: Angular, TypeScript, JavaScript, React, StencilJS
Databases & Caching: PostgreSQL, MongoDB, Redis
Messaging & Integration: Apache Kafka, Azure Service Bus, IBM MQ
DevOps & Cloud: Docker, Kubernetes, AWS (S3, EB, EC2, CloudFront), GitHub Actions,

ACHIEVEMENTS & LEADERSHIP

High Flyer Award for leadership in Air India–Vistara integration
President, Students' Gymkhana IIT Hyderabad 2021-22
JEE Mains AIR 737; JEE Advanced AIR 1255; KVPY Scholar with AIR 144; NTSE Scholar