Akshay Manjunath

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EDUCATION

- **Dayananda Sagar College of Engineering, Bangalore, India**   **Dec 2022 – Present**
  Bachelor of Engineering in Computer Science
  Cumulative GPA: 8.048/10

TECHNICAL SKILLS

- **Programming/ Databases:** Java, Kotlin, Python, C, MySQL, MongoDB, PostgreSQL.
- **Technologies/ Tools:** Android Studio, Firebase, Jetpack Compose, Git, Spring Boot, Hibernate, Maven, Gradle, Room, FastAPI
- **Interests:** Machine learning, API design, DBMS, Spring framework, Neural Networks, Generative AI.

PROJECTS

Healing Protocols | GitHub

- Developed an **acupuncture-focused Android application** using **Jetpack Compose**, following the **MVVM architecture**, enabling clinic professionals to efficiently search **treatment protocols** by **organs, symptoms, and patterns**.
- Designed a **dynamic UI** with **tabular search results** (Organ, Pattern, Symptom, and Treatment Point) for streamlined clinical workflows.
- Built a custom **REST API** with **FastAPI (Python)** and **MongoDB**, optimizing query performance with **indexing** and efficient **data modeling.**
- Deployed and optimized backend on **Render,** reducing **search latency** from 60-120s to **under 1 second** (99% improvement) by preventing **cold starts**.
- Utilized **Kotlin Coroutines** for **asynchronous operations** and **efficient data fetching**, ensuring a smooth user experience.
- Integrated **UptimeRobot health checks** (5-minute pings) to keep the API warm, ensuring consistent responsiveness.
- Implemented **Firebase Authentication** and **session management** for secure, personalized access.
- Delivered as a **freelance project**; now actively used by practitioners for **evidence-based treatment planning**.
- **Technologies used:** Android studio, Kotlin, Jetpack Compose, MVVM, Android SDK, Kotlin Coroutines, Firebase, MongoDB, Python, FastAPI, Postman API, Render, UptimeRobot.

Lingua | GitHub

- Built a language learning Android app using Jetpack Compose, MVVM architecture, and Kotlin Coroutines**,** simulating a language tutor using **Gemini AI**, providing **interactive chat-based lessons in 5+ languages**.
- Implemented Firebase Authentication and **Firestore** for user login and progress tracking, ensuring **real-time data sync** across sessions.
- Designed a clean, intuitive UI with **animated transitions** and a **responsive chat interface**, enhancing **user engagement**.
- Leveraged **Gemini AI's NLP** to enable **dynamic conversations** and **grammar corrections in real-time**.
- Used Kotlin Coroutines to handle network calls, UI updates, and asynchronous data loading effectively.
- **Technologies used:** Android studio, Kotlin, Jetpack Compose, MVVM, Android SDK, Kotlin Coroutines, Firebase, MongoDB, Python, FastAPI, Render, Gemini AI.

ShopStream | GitHub

- Developed a secure RESTful API using **Spring Boot**, enabling **CRUD operations** for products, orders, and user management.
- Implemented **JWT-based authentication** with **Spring Security**, including **role-based access control** (ADMIN/USER) **and password encryption (BCrypt).**
- Designed and optimized **PostgreSQL database schema** with **Hibernate/JPA**, reducing query latency by 30% through indexing and efficient relationships.
- Integrated **HikariCP connection pooling** for scalable **database performance**, handling 100+ concurrent requests efficiently.
- Built **order processing logic** with **inventory validation**, ensuring real-time **stock updates** and preventing **overselling**.
- Configured **Swagger API documentation**, streamlining frontend integration and reducing onboarding time for developers.
- Enforced strong **security practices: Rate limiting, CORS policies**, and environment-based secret management (.env).
- Automated **admin user creation** at startup to streamline **initial deployment**.
- Technologies Used: Java, Spring Boot, Spring Security, Hibernate, JPA, PostgreSQL, JWT, REST API.

CERTIFICATIONS

- Master Java Programming - Complete Beginner to Advanced **(GeeksforGeeks)**
- Android App Development **(Teachnook in collaboration with Cognizance'24 IIT Roorkee)**

EXTRACURRICULAR

- **Badminton Player:** Regularly participate in local and interclub tournaments, demonstrating strategy and physical fitness.