

Harsh Ranjan

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Education

B.Tech. – Indian Institute of Technology Kanpur
Major in Chemical Engineering, Minor in AI and ML

Nov 2020 – April 2024
GPA: 6.94 / 10.0

Experience

Ixigo, Software Engineer 2 | *Android*

Gurugram, August 2024 - Present

- **AI SDK:** Developed a real-time **conversational AI SDK** leveraging **LiveKit** and Jetpack Compose integrable across Ixigo apps
- **Platform:** Built ixigo's design system using **Unstyled Compose** components including **animations** with efficient recompositions
- **App Revamp:** Engineering the complete **AI overhaul** of the Ixigo flights app, enabling voice-based controls & hands-free experience
- **VAS:** Developed scalable VAS using **KMM, Compose, & MVVM** architecture, conducted A/B tests, resulting in **3L/day** profit rise
- **Metrics:** Migrated **legacy code** to Kotlin & Compose, cutting ANRs by 80%, crashes by 60%, and boosting UT coverage to 90%

CryptoOwl, Backend Engineer & Data Analyst (*Offered PPO*)

June 2023 - August 2023

- Developed a system to profile Ethereum wallets via network analysis to characterize clusters, identify profitable trading behaviors
- Engineered a data pipeline using **AWS Timestream, RDS, Redshift, Lambda** orchestrated by **Airflow**; enabling real time alerts
- Deployed a web dashboard that simplified intricate crypto trends for rapid decision-making, improved risk assessment by correlating transaction patterns with market movements, and quantified the influence of **Telegram** activity on token behavior.

Achievements

- Secured a full-time role at Deloitte USI as a Data Analyst
- Won the ixigo Premio Award for top contributing Engineers
- Secured AIR 3353 in JEE Advanced & AIR 5409 in JEE Mains
- Elected as Senator to represent a batch of 1200 students

Projects

Gamo-Pedia - The Game Wikipedia | *Compose MultiPlatform, Kotlin Multiplatform, Koin, kTor, RoomDB*

- Built a modular Android app in Kotlin using Jetpack Compose and clean Architecture for browsing and managing video games
- Integrated **Ktor** for API networking, **SQLDelight** for local caching, **Coil** for Image Loading and **Koin** for dependency injection
- Developed intuitive game search, favorites, and dashboard features with offline support and real-time UI updates using Kotlin **Flow**

Employee Attendance Management | *Compose MultiPlatform, Kotlin Multiplatform, Spring Boot, React*

- Implemented **GPS**-enabled attendance tracking and admin-controlled configuration features for reliable location validation
- Developed a modern Android app using Jetpack **Compose, nav, flows** with real-time GPS validation and offline support
- Built a secure Spring Boot backend with **JWT** authentication, **PostgreSQL** & role-based access for reliable employee management

Digi Campus | *Spring Boot*

- Developed backend for a web app that aims to digitize various physical stores and service providers at the IIT Kanpur
- Built using JAVA with **Spring Boot** and **Postgres** connected via **Spring Data JPA** resulting in high-performance app
- Involved database management, **hashing** and **salting**, role-based user authentication, and session validation using **JWT**

Neural Machine Translation | *pyTorch, Python, nltk*

- Developed a Hindi to English machine translation model trained 100K+ sentence pairs using multiple model architectures
- Preprocessed Hindi and English training, validation and test texts, removing symbols using Indic-NLP and spaCy library
- Designed RNN and Bi-LSTM based models for translation, generating embeddings of length 512 for both the language

Technologies

Languages: Java, Kotlin, C, C++, SQL, JavaScript, Python, R, MATLAB, bash

Android: Jetpack Compose, MVVM, MVI, Room, SQLite, Retrofit, Ktor, Hilt-Dagger, Gradle, Koin, JUnit, Espresso, Mockito

Cloud Computing : AWS: EC2, Lambda, RDS, SQS, Timestream, Redshift, API Gateway, Cloudwatch