

# Harsh Ranjan

✉ rharsh.iitk@gmail.com    ☎ +91-88252 30726    in harshr20    🌐 1-harshr

## 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**, Kotlin **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