

# SHUBHAM KUMAR GUPTA

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## EXPERIENCE

### Senior Mobile Developer

#### Oracle

Oct 2025 – Ongoing    Bangalore, IN

- Architected **state machine-based orchestration system** managing **5+ parallel workflows**. Implemented **WebSocket audio streaming** with chunked uploads, retry logic, and background processing handling **100+ concurrent packets**.
- Engineered **audio recording system** using **Oboe NDK** with noise suppression, echo cancellation, and biquadratic filtering, reducing audio latency by **40%**.
- Built **20+ screens** using **Jetpack Compose** with **MVVM** pattern. Implemented **security hardening** reducing APK size from **57MB to 46MB (19%)**.
- Established **CI/CD pipeline** with BrowserStack and Jenkins with **95% CoCo**.
- Technologies: **Kotlin, Java, Jetpack Compose, MVVM, Clean Architecture, Hilt, Coroutines, Flow, WebSocket, Oboe NDK, WorkManager, RoomDB, Jenkins, ProGuard, System Design**

### Software Development Engineer (Android)

#### OLA Electric

July 2022 – Oct 2025    Bangalore, IN

- Worked the development of the **Proximity** feature for scooters. Devised formulations that enhanced proximity success rate from **26% to 98%**, solving edge cases. **Contributed** to the official **AltBeacon** Android library.
- Developed an optimized **event sequencing**, throttling, and **synchronized** triggering, improving efficiency, and reducing event monitoring costs by **5%**.
- Enhanced **connection** and data transmission stability over **Bluetooth (BLE)**.
- Integrated **OLA Maps SDK** for real-time scooter tracking and dynamic UI for **Refer & Earn**, increasing user engagement by **20%** and conversions by **15%**.
- Developed **Megaphone (PATENT)** feature using real-time **audio processing, vocal & phase shifting, noise reduction, echo canceling** via Android **NDK**.
- Implemented **Ride stats** feature using **Google AR Core**, with 3D badges.
- Worked on **Concert Mode** sharing media over Wi-Fi using **NSD** and **socket**.
- Worked over **Notification Center** feature to process & render notifications.
- Led the **re-architecture of the application**, focusing on **Koin to Hilt** migration & implemented **KtLint** and **Benchmarking** reducing loading time from **12s to 7s**.
- Techstack: **Java, Kotlin, Clean Architecture, MVVM, Notification, Retrofit, Socket, Glide, Kotlin DSL, Koin, Hilt, Coroutines, Flows, Channels, RoomDB, Retrofit, ExoPlayer, Jetpack Compose, DataStore, & Android SDK**.

### Research Intern

#### UiT The Arctic University of Norway

April 2021 – July 2021    Tromsø, NOR

- Developed algorithms for acoustic microscopy utilizing **LabView** and **MATLAB**, resulting in a **40%** reduction in scanning time for biological samples.
- Worked on the synthetic aperture focusing and tilt correction algorithms of 4D time-series scanned objects using ultrasonic.

## PUBLICATIONS

AutoSAFT: Autofocusing for extended depth of imaging in acoustic microscopy  
**Journal of Microscopy**    2025

Block-matching and 3D filtering based denoising of point contact excitation  
**Applied Acoustics Journal**    2024

Image denoising in acoustic microscopy using block-matching and 4D filter  
**Nature Scientific Journal**    2023

Automated tilt compensation in acoustic microscopy  
**Journal of Microscopy**    2022

## EDUCATION

Indian Institute of Technology,  
Guwahati

### Bachelor of Technology

2018 – 2022    Guwahati

- Thesis:** Non-Invasive point of care ECG signal analytics for cardiac diseases.
- CPI: 7.76/10.00

## PROJECTS

BOSCH Route Optimization (Inter IIT Gold)

8<sup>th</sup> Inter IIT Tech-Meet    Youtube

- Implemented **route optimization** algorithms to schedule buses depending on constraints such as **time window**, fuel, operational cost, and traffic simulation.
- Technologies used **Django, Google Maps SDK, Tabu Search, Genetic Algorithm, and Dijkstra's Algorithm**.

Vote4US (Android, Blockchain, Top 20 Team)

Microsoft Hackathon    Github

- Developed a secure, anonymous online voting platform over **blockchain** using **Azure smartcontract**, solving issues like a single phone in a family, adhaar, **biometric** authentication, random 3-day time slot.

COWIN Slot Booking Extension (9L Hits)

Real-Life Problem Solving    Github

- Worked on extension for booking vaccine slots using autofill & captcha solver.
- Used Ads service as a business model, converted **40+ customers**, views counter, live status viewer, admin panel & data handling via **Google Sheets, PHP, HTML**.

## ACHIEVEMENTS

- CodeChef September Long Challenge'21:** Global Rank 69.
- TechGig Codegladiator'21:** Finals Rank 24 out of 3.16 Lakh students.
- Google Hash Code'18:** Secured 19<sup>th</sup> position at the National level.
- Google Codejam'19:** Qualified 2 rounds.
- Bug Bounty Hall of Fame:** Found vulnerabilities on IITG, Google, Sirv.com, Esty, Hoorn.nl, Cert.europa.eu, Nokia, Microsoft, Pega, Castoredc, LoginRadius, Gusto, CompanyHub, Dell, Indeed, 23andMe, Fitbit, Prezi.
- Opensource:** Worked with Kiwix, Appwrite.io, Fossasia, PublicLabs
- HackerEarth Technoflux Hackathon'19:** Secured 3<sup>rd</sup> rank.