Harshit Raj

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LinkedIn — GitHub — Portfolio

Education

Indian Institute of Technology Madras 2024 – 2028
Bachelor of Science in Data Science and Applications **CGPA: 9.2/10**

Experience

SM Interactive Pvt. Ltd. (RoxStar) May 2026 – Present
Software Development Engineer in Test / Site Reliability Engineer Intern

- **Re-architected the real-time Live infrastructure** by consolidating multiple broadcasters into a single LiveKit room and implementing selective track subscriptions for viewers. Reduced live-switching latency from **3–5 seconds to milliseconds**, enabling near-instantaneous navigation across scrollable live streams.
- **Optimized PK (Player Kill) Battle workflows** within the redesigned Live architecture, reducing API calls by approximately **66%** through improved request coordination and state management, significantly reducing backend overhead during multi-broadcaster sessions.
- **Owned end-to-end development of the Pro Broadcaster ecosystem**, introducing premium broadcaster capabilities and new monetization opportunities. Implemented Random Gifting, rewarding broadcasters with gold coins when randomly assigned viewers engaged with their live streams for at least 5 minutes. Generated **15k+ gifting interactions within the first three days of launch**.
- **Owned Phase 1 of roxstar.in**, developing frontend and backend functionality using Node.js, Express.js, TypeScript and MySQL. Implemented deep-link routing between the web platform and Android application, preserving referral attribution and contextual navigation.
- Built automated **CI/CD pipelines using Docker and GitHub Actions**, automating frontend deployments to Google Cloud Run and managing backend container image build and registry workflows.
- Optimized LiveKit connection lifecycle management and client-side state persistence, reducing live-stream reconnection latency after application backgrounding from approximately **4s to under 500ms**.
- Contributed to production engineering and release reliability for a live-streaming platform with **50K+ Play Store installs**, thousands of daily active users and hundreds of daily live broadcasts.

Projects

DevTinder – Developer Networking Platform Dec 2025 – Jan 2026
MERN, Socket.io, AWS EC2, AWS SES, Nginx

- Built a MERN-based networking platform with real-time messaging using Socket.io and RESTful backend APIs.
- Deployed on AWS EC2 behind Nginx and integrated AWS SES for transactional email delivery.

ParkedIn – Smart Parking Management System — GitHub 2025
Python, Flask, SQLAlchemy, SQLite, REST APIs, JWT, Jinja2

- Built a full-stack parking management platform using **Flask** with a modular Blueprint architecture, separating admin, user, and vehicle route concerns across independent route handlers.
- Designed a **relational data model** in SQLAlchemy with 6 interconnected tables (User, Vehicle, ParkingLot, ParkingSpot, Reservation, Address), enforcing referential integrity and cascading deletes.

Technical Skills

Languages: JavaScript, TypeScript, Java, Python, PHP, SQL
Backend: Node.js, Express.js, Flask, REST APIs, JWT, Socket.io
Databases & Caching: PostgreSQL, MySQL, MongoDB, SQLite, Redis
Cloud & DevOps: Google Cloud Run, AWS EC2, Docker, GitHub Actions, CI/CD, Linux, Nginx
Real-Time Systems: LiveKit, WebRTC, HLS
Frontend: React.js, HTML5, CSS3, Tailwind CSS, Jinja2
Tools: Git, GitHub, Postman