

# MANPREET SINGH

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## EDUCATION

### Wilfrid Laurier University

Master of Applied Computing (Co-op)

Sep 2025 – Apr 2027

GPA: 3.9 / 4

### Chitkara University

Bachelor of Engineering (Computer Science)

Jul 2021 – May 2025

GPA: 3.7 / 4

## WORK EXPERIENCE

### CoreAI Technologies

May 2025 – Oct 2025

*Software Developer*

*Remote*

- Engineered a health dashboard using **Next.js** and **TanStack Query**, optimizing data fetching via custom caching and visualizing biomarker trends with interactive **Recharts** components.
- Developed Health Snapshot categorization system organizing **400+** biomarkers across blood, cardiovascular, and performance metrics with detailed information pages, simplifying health tracking workflows.
- Implemented guest PIN access in Android Smart Lock app using **Kotlin** and **Seam SDK**, enabling temporary door access with NFC authentication, PIN validation, and expiration handling.

### SalesCode.ai

Jun 2024 – Dec 2024

*Software Engineer Intern*

*Gurugram, India*

- Built geo-targeted banner system with **Spring Boot (Java)** backend, **Flutter** widgets, **AWS S3** storage, and **EC2** deployment with auto-scaling, serving 100K+ sales reps and achieving 15% higher CTR.
- Optimized **Flutter** app performance through widget refactoring and lazy loading patterns, reducing memory footprint from **89MB** to around **62MB**, improving overall app performance.
- Collaborated with 5 engineers in **Agile/Scrum** sprints to deliver 5+ production **Flutter** features, implementing **unit tests** and incorporating code review feedback to maintain production-grade code quality.

## PROJECTS

### Qure | [Frontend](#) | [Backend](#)

**Node.js, Express.js, React Native, PostgreSQL, Socket.IO, Redis, Docker**

- Developed full-stack clinic queue system with **Node.js/TypeScript** backend, **React Native** mobile app, role-based access for patient, staff, and admin workflows, with **JWT** authentication.
- Engineered real-time queue system with **Socket.IO** room-based architecture achieving **<100ms latency**; implemented fault-tolerant token management via atomic **PostgreSQL** transactions to prevent race conditions.
- Built asynchronous job pipeline with **BullMQ** and **Redis** for **Cloudinary** uploads, reducing upload latency by **70%**. Containerized with **Docker** and deployed on **Render** cloud platform.

### MyTrackr | [Source Code](#)

**Java, XML, Android, Firebase, Gemini SDK, ML Kit, Cloudinary**

- Developed Android expense tracking app using **ML Kit** OCR and **Gemini AI** for automated receipt scanning with **AlarmManager** based expiry notifications, reducing manual data entry time by 80%.
- Implemented automated budget tracking with real-time expense aggregation, multilingual support, CSV export, cloud-synced **Cloudinary** receipt storage, and comprehensive **JUnit** test coverage.

### Airbnb Price Analytics & Geospatial Mapping | [Source Code](#)

**Python, Scikit-Learn, Folium, Pandas**

- Developed a multi-model predictive pipeline using Scikit-Learn to analyze NYC rental trends, and used GridSearchCV for hyperparameter tuning.
- Created an interactive Geospatial Heatmap using Folium to visualize price density across 36K+ listings, identifying neighborhood price clusters after rigorous IQR-based outlier removal.
- Performed Exploratory Data Analysis (EDA) using Pandas, Matplotlib and Seaborn to handle missing values and perform feature scaling, ensuring data integrity for regression modeling.

## LEADERSHIP & ACTIVITIES

### SKILLVARZ 1.0 Hackathon | *Semifinalist*

May 2025

- Built immersive 3D web experiences ([Food Drone](#) delivery simulation and [Amaya Cafe](#)) using **Three.js**, **React Three Fiber**, and **GSAP**, collaborating with a 5-member team.

### Google Developer Student Clubs (GDSC), Chitkara University

Dec 2022 – Feb 2024

- Coordinated event planning, venue setup, and resource allocation for technical hackathons and events with 100+ participants.

## TECHNICAL SKILLS

**Languages:** JavaScript, TypeScript, Java, Kotlin, Python, C++, HTML/CSS, SQL, Bash/Zsh

**Web & Backend Development:** React, Next.js, Node.js, Express, Spring Boot, Three.js, GSAP, TanStack Query

**Mobile Development:** React Native, Flutter, Android SDK (Kotlin/Java), ML Kit, Firebase

**Data Science & ML:** Pandas, NumPy, Scikit-Learn, Matplotlib, Seaborn, Folium, GridSearchCV

**Infrastructure & Developer Tools:** AWS (EC2, S3), Docker, PostgreSQL, MongoDB, Redis, Git, Socket.IO, JUnit & Jest