

ANKUR BAG

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Flutter Mobile Engineer and Founder of Orbit Innovations (MSME registered) with a track record of shipping production-grade mobile apps and real-time backend systems. Specialized in architecting offline-first systems on Supabase (PostgreSQL) with Row-Level Security (RLS), CDC event streams, and sub-50 ms API latency. Deployed applications on the Google Play Store with 200+ installs.

TECHNICAL SKILLS

Languages: Dart | Python | JavaScript | SQL | HTML | CSS

Mobile: Flutter | Android SDK | Riverpod | Drift(SQLite) | REST APIs | Offline-First | Push Notifications

Backend & DB: Supabase | PostgreSQL | pgvector | Firebase | FastAPI | Edge Functions (Deno) | Realtime CDC | RLS

Architecture: Clean Architecture | Outbox Pattern | Event-Driven | Idempotency | Monorepo (Melos) | API Design

DevOps & Tools: Docker | Git | GitHub | Vercel | Google Play Store | Sentry | Linux | VS Code

CS Core: Data Structures & Algorithms | OOP | DBMS | Operating Systems | Computer Networks

EXPERIENCE

Founder & Software Engineer

2025 – Present

Orbit Innovations – MSME Registered Startup, Mobile & Full-Stack Engineering

- Architected a **5-app Flutter + Supabase restaurant management platform** (Customer, POS, KDS, Rider, Admin ERP) on a Melos monorepo; engineered an **offline-first sync engine** using Drift/SQLite outbox queues with idempotency-keyed replay, achieving zero-data-loss order recovery after network interruption.
- Enforced **Row-Level Security across 54 PostgreSQL tables** and gated all payment mutations behind server-side RPCs, eliminating client-side financial data tampering as an entire vulnerability class.
- Eliminated **85% of database read traffic** via Supabase CDC event-driven cache invalidation and reduced GPS telemetry writes **90%** through batch coalescing; refactored KDS render pipeline from $O(N^2)$ to $O(1)$ hash-based lookup, resolving UI frame drops at peak ticket volume.
- Designed, built, and published **ScholarX** on Google Play (200+ installs) – Flutter + Supabase mobile app with offline-first content delivery and a server-driven mock test engine serving 10,000+ MAKAUT university students.

Full-Stack Engineer (Contract)

Aug – Nov 2025

DigitalIndian Business Solutions Pvt. Ltd., Kolkata

- Architected and deployed a responsive **Supabase eCommerce platform** for a US-based client in **8 weeks**; optimised SQL queries and indexing strategies to reduce checkout load times by **30%** while handling real-time customer transactions end-to-end.

KEY PROJECTS

Mother's Hut – Production Restaurant Ecosystem | Flutter | Supabase | PostgreSQL | Drift | Riverpod | Firebase | Deno

- Implemented real-time multi-app order sync via **Supabase CDC WebSockets** (80 ms fanout latency), processing **1,000+ monthly orders** across 5 client applications including POS, thermal invoice generation, and GPS-geofenced delivery workflows.
- Certified metrics: **P50 API 45 ms** | P95 110 ms | cold start 12 ms; configured PITR disaster recovery (**RTO < 30 min**) and Sentry observability pipeline.

CareSync – Biometric E-Prescription Platform | Flutter | FastAPI | ArcFace | PostgreSQL (pgvector) | Riverpod

- Engineered a **HIPAA-compliant biometric login pipeline** using ArcFace face verification; indexed high-dimensional facial embeddings via **PostgreSQL pgvector**, achieving **sub-100 ms similarity search** on a dataset of 1,000+ patient records.

ScholarX – MAKAUT Android App [Play Store] | Flutter | Dart | Supabase | PostgreSQL | Vercel

- Sole developer – engineered offline-first content caching, server-driven adaptive mock test engine, and CGPA calculator on a Flutter + Supabase (PostgreSQL) + Vercel stack; **200+ installs, live on Google Play Store**.

EDUCATION

B.Tech – Computer Science & Engineering | CGPA: 7.38

2022 – 2026

Techno International New Town, Kolkata

Higher Secondary – PCM + Computer Science | CBSE (XI–XII)

2020 – 2022

Kendriya Vidyalaya Ranaghat, West Bengal

Secondary – CBSE (Grade I–X)

2010 – 2020

Kendriya Vidyalaya BSF Krishnanagar, West Bengal

CERTIFICATIONS & ACHIEVEMENTS

Introduction to Cloud Infrastructure – Microsoft

Dec 2025

Data Analytics Job Simulation – Deloitte via Forage

Mar 2026

Internal Hackathon – SIH 2023 – Techno International New Town | MoE / AICTE

Sep 2023

Achievements: 1st Place – Jawaharlal Nehru National Science Exhibition, Regional Level (2019–20); 2nd Place (2017–18); National Level Participant (2018, 2020).