

SHWETANK SHREY

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I'm an engineer who builds end-to-end systems. My core competency across the systems I've shipped has been defining the data architecture: how information moves reliably across hardware, mobile, network, and cloud boundaries. My career has had me go deep into each of those layers and wear the hat of a software engineer, an embedded engineer, a product manager, and a proud founder. Most recently R&D lead at Ultrahuman on Cortex Band, an EMG wrist wearable exploring novel neuromuscular biomarkers. I led a team of 5 engineers and designers across five hardware revisions and the firmware, mobile, and cloud software that drives it. Previously, I co-founded Tweek Labs (3D motion analysis; acquired by Ultrahuman in 2024) where I was CTO and led 10 engineers.

WORK EXPERIENCE

ULTRAHUMAN

R&D Lead — Ultrawear, Cortex Band

Bengaluru, IN

Apr 2024 – June 2026

- **Cortex Band** — Owned the data architecture of a multi-modal wrist wearable (EMG, PPG, IMU, ECG) and led the engineers who implemented each layer: nRF5340 firmware, BLE transport, Android and iOS clients, and the analytics backend. Designed the TLV wire protocol carrying the sensor streams, and the algorithms that derive neuromuscular biomarkers beyond the cardiovascular biomarkers standard in wrist wearables. Five hardware revisions through pilot production (2 subsystem PoCs + 3 full-system); 200 bands of the latest revision in active use.
- **Ultrawear** — Migrated Tweek's data streaming platform into Ultrahuman's AWS infrastructure (EC2 + Docker). Ported the services, adapted them to Ultrahuman's coaching product, and ran the platform in production across 5 coaching deployments serving over 200 athletes.
- **Ring Pro charging case** — Authored the hardware UI PRD as a state machine that maps over 50 user journeys to LED, haptic, and audio feedback. Built the haptic and audio drivers in Zephyr RTOS on nRF5340.

ZENATIX

Full Stack Lead

Gurgaon, IN

Oct 2023 – Mar 2024

Built a new SMB product line for Zenatix's enterprise IoT platform — a building-automation kit reducing power consumption via manager nudges and appliance scheduling, deployable by mechanical/electrical contractors without enterprise customisation cycles. Shipped the Raspberry Pi edge integration and the React Native mobile app. Launched at AHR 2024, generating over 50 qualified leads.

TWEEK LABS (acqui-hired by Ultrahuman, 2024)

Co-founder and Chief Technological Officer

New Delhi, IN

Sep 2019 – Aug 2023

Founded and scaled a 3D motion-analysis startup; hired and led 10 engineers across R&D and engineering; established code review, Linear, Notion, and on-call from scratch.

- Built and operated a real-time motion-data platform in production for over 4 years, leading a backend team of 2. Go gRPC-streaming services on GKE handled ~10K frames/sec at peak (100 concurrent suits × 100 Hz), routing into Cassandra (~200 GB across over 5000 sessions) and through Kafka to a stateful Python analytics service (streaming segmentation, per-event classical ML). Postgres held session metadata.
- Designed a lossless motion-data codec that cut wire size by 80%; wrote the cross-platform Bluetooth driver stack used by all clients.
- Led the mobile team of 4, building Android and iOS clients on an MVVM clean-architecture pattern (Jetpack Compose, SwiftUI).
- Built the model-deployment platform that data scientists used to ship activity-recognition ML models into production; prototyped the underlying 3D motion-capture algorithm in Unity3D (<2° heading accuracy, sub-second calibration).

EDUCATION

INDRAPRASTHA INSTITUTE OF INFORMATION TECHNOLOGY

B.Tech (Computer Science and Engineering)

New Delhi, IN

May 2020

TECHNICAL SKILLS

Backend & Data: Go (Gin, gRPC, gRPC-streaming), Python (FastAPI, Flask), Node (Express, NestJS); Kafka, PostgreSQL, Cassandra, Redis, TimescaleDB, DynamoDB

Cloud & Infra: AWS (ECS, EKS, RDS, S3, SQS, IoT Core), GCP (GKE, Cloud Run), Docker, Kubernetes, observability (Prometheus, Grafana), CI/CD

Mobile: Android (Kotlin, Jetpack Compose), iOS (Swift, SwiftUI), React Native (Expo), React; offline-first sync, MVVM

Embedded: Zephyr RTOS on nRF5x and STM32; BLE; wire-protocol design; multi-modal sensor pipelines; C/C++

I work in Claude Code more than I write code in it. I built a personal knowledge system around it for my notes, meetings, conversations, and decisions. Faster work, less context loss, fewer dropped threads.