Adesh Pandey

Full-Stack Software Engineer

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SUMMARY

Full-Stack Software Engineer with 3+ years shipping web and mobile products on a 140-engineer team. Sole creator of an iOS app used by 50–60% of users, cut authentication latency 20x, and own end-to-end billing, growth, and B2B platform systems spanning React/TypeScript, Node.js, and Swift. Strengths in payments (Stripe + Apple IAP), real-time features, data modeling, and internationalization.

EXPERIENCE

Software Engineer, Synthesis

April 2023 – Present | US-based edtech startup (Remote)

- **iOS (sole owner):** Created and maintain the Synthesis iPad app. Bootstrapped it from scratch (Xcode project, Swift + WebView architecture, TestFlight, App Store submission) to 50–60% user adoption, and own all core Swift modules.
- Built native integrations: StoreKit in-app purchases, custom on-screen keyboard, microphone and speech recognition, universal links, and version gating.
- **Performance:** Migrated authentication from server-side to client-side architecture, improving page-load latency 20x.
- **Payments & billing (owner):** Own all account and billing systems across a dual payment stack (Stripe + Apple IAP): family and multi-child plans, trials, upgrades, cancellation, refunds, and a subscription-management dashboard with reconciliation cron jobs. Designed the payment-transaction data model in Prisma/PostgreSQL.
- **Growth systems:** Built referral, gift, and affiliate programs end-to-end (backend to UI), with HubSpot CRM sync, conversion tracking, and Rakuten affiliate integration.
- **B2B platform:** Led the expansion into education organizations, building org authentication, bulk student onboarding, class management, and managed subscriptions that turned a consumer app into a multi-tenant offering.
- **Interactive learning:** Built dozens of performance-optimized math widgets and games in React, Redux, and Framer Motion (Number Muncher, Sumdoku, PaintGrid, Compare Grid, and more) with responsive scaling across screen sizes and devices.
- **Real-time & accessibility:** Shipped real-time "presence" features with live audio (mic capture, play/pause, device tech-checks) on web and iPad over WebSockets; internationalized the full application and added text-to-speech voice controls.
- **Experimentation:** Released behind feature flags and A/B tests (Statsig); instrumented product analytics with Segment and Fullstory.
- Joined through a 2-week freelance build (real-time app in React/TypeScript, WebSockets, Express, Framer Motion) and converted to full-time on delivery quality.

TECHNICAL SKILLS

- **Languages:** TypeScript, JavaScript, Swift, Rust, Go, C/C++, SQL, Verilog, HTML, CSS
- **Frontend:** React, Next.js, Redux, Tailwind CSS, Framer Motion, tRPC
- **Backend:** Node.js, Express, tRPC, REST APIs, WebSockets, Prisma, PostgreSQL

- **Mobile:** Swift, iOS, StoreKit, WebView, App Store deployment
- **Payments:** Stripe, Apple In-App Purchase, subscription billing
- **Platform & Tools:** Git, Vercel, Statsig, Segment, Fullstory, HubSpot, internationalization (i18n), A/B testing

EDUCATION

Bachelor's in Electronics, Communication and Information Engineering

Pulchowk Engineering Campus, Tribhuvan University, Nepal

Currently in 4th year (concurrent with full-time software engineering work).

OPEN SOURCE

- **Framer Motion:** Fixed broken type definitions introduced by the Motion v11 package split; pull request reviewed and merged by maintainer Matt Perry.
- **Matrix SDK (React):** Contributed UI bug fixes and styling improvements.

SELECTED PROJECTS

- **NutriQuick** (App Store, nutri-quick.web.app): A calorie tracker I built for myself around one rule — log a full day in under 60 seconds — then took from personal tool to a polished, shipped product. Native SwiftUI on iPhone, Apple Watch, and widgets, with a TypeScript/PostgreSQL backend. Owned the product direction, UX, and architecture.
- **RISC-V CPU on FPGA:** A 32-bit RISC-V (RV32) processor implemented in Verilog and run on FPGA.
- **Systems programming in Rust:** A small compiler, a multithreaded HTTP web server, and a 3D renderer, all built from scratch.
- **TrackTheTrap** (trackthetrap.com): Chrome extension that tracks YouTube and Shorts consumption with configurable count-based limits and automatic blocking.
- **Algorithm Visualizers:** Interactive visualizations of pathfinding (BFS, DFS, Dijkstra) and sorting algorithms with real-time feedback.
- **bevy_spacewars:** A 90s-style spaceship battle game built in Rust with the Bevy engine.