

Aksh Khurana

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EDUCATION

Thapar Institute of Engineering and Technology, Patiala

Aug. 2023 – Present

B.E. in Computer Engineering

- **Coursework:** Data Structures & Algorithms, Operating Systems, OOP, Machine Learning, Computer Networks, DBMS, Software Engineering

EXPERIENCE

Software Engineering Intern

Jun. 2026 – Present

Lucio AI (Remote)

- Building production features for a legal-tech product at an early-stage Bangalore startup, contributing across the stack and collaborating with the engineering team to ship reliable, maintainable code.

React Native Developer

Aug. 2025 – Nov. 2025

Exaflair Technologies (Remote)

- Shipped a cross-platform digital wallet supporting decentralized transactions and on-chain identity verification to production on iOS and Android.
- Reduced application load time by 30% through API latency optimization, lazy loading, and modular component refactoring.
- Integrated 10+ scalable REST endpoints with the backend team and implemented Redux-based state management for consistent cross-platform UX.
- **Stack:** React Native, TypeScript, Redux, Supabase, REST APIs, Agile/Scrum

PROJECTS

RELAY | *React, TypeScript, Node.js, Express.js, WebSocket, PostgreSQL, Redis*

Jun. 2026

- Built a full-stack realtime chat system with public rooms and direct messages delivered live over WebSockets, backed by permanent chat history in PostgreSQL.
- Architected horizontal scaling with Redis pub/sub to fan messages across multiple WebSocket service instances, splitting the system into focused REST and realtime backends.
- Implemented secure authentication with bcrypt-hashed passwords and JWT sessions, plus in-app and desktop notifications for incoming messages.

DocChat | *Next.js, TypeScript, PostgreSQL, ChromaDB, Redis, BullMQ, Docker*

Jun. 2026

- Built a production-style RAG platform that answers natural-language questions grounded in user-uploaded PDFs, streaming responses token-by-token with inline citations to the exact source page.
- Decoupled the write and read planes: slow ingestion (parse, chunk, embed, index) runs async in a dedicated BullMQ worker so uploads return immediately, while latency-sensitive chat streams straight back.
- Engineered retrieval over ChromaDB vector search with Redis-backed embedding and answer caching, plus consistent multi-store deletes fanned out across Postgres, ChromaDB, and Redis.

BackTrack Campus Find | *React, TypeScript, Supabase, OpenRouter API, React Query*

Nov. 2025

- Engineered an AI-driven search platform with natural-language retrieval and multimodal AI (GPT-4o-mini) for automated image analysis and voice-enabled item posting.
- Designed a real-time claim system with admin dashboard, automated categorization, and live updates via Supabase Realtime subscriptions.
- Architected role-based authentication and a storage layer using Supabase (PostgreSQL, Auth, Storage), reducing query latency through React Query caching.

TECHNICAL SKILLS

Languages: TypeScript, JavaScript, Python, C++, SQL

Frontend & Backend: Next.js, React.js, Redux, Tailwind CSS, Node.js, Express.js, REST APIs, WebSockets, Prisma ORM

Databases & Infra: PostgreSQL, MongoDB, Redis, ChromaDB, Supabase, Firebase, Docker, CI/CD, AWS (EC2, S3)

Concepts: Data Structures & Algorithms, OOP, System Design, Distributed Systems, Agile/Scrum

ACHIEVEMENTS

- Solved **400+ DSA problems** on LeetCode and other competitive platforms, demonstrating strong problem-solving and algorithmic skills.
- **Goldman Sachs India Hackathon (GSIH)** – Secured AIR 474 out of 15,000+ participants.
- **Smart India Hackathon 2025** – Cleared the internal college round from over 350+ teams.
- **ATF National Qualifier** – Ranked in the Top 450 out of 20,000+ participants.