Nawazish Khan

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Education

I.K. Gujral Punjab Technical University — Punjab, India
Bachelor of Technology in Computer Science and Engineering — *Expected June 2027*

- **CGPA:** 8.50/10 (till 6th semester) | **Coursework:** DSA, DBMS, Operating Systems, Computer Networks, Machine Learning

Experience

Open Source Contributor — 2026
breakscale (1.1k stars), libredb-studio, zero-cost-crm, invisible-notes — *Remote*

- Got **6 pull requests merged** across 4 projects by working through code review with each maintainer.
- Fixed a load-balancer bug in **breakscale** that let requests skip capacity and queue limits, and proved the fix with **before/after throughput benchmarks**.
- Built a settings editor in **zero-cost-crm** and fixed an audit-log gap in **libredb-studio**, a database tool.

Projects

Arjuna Agri | *Next.js, TypeScript, Gemini API, Groq, Supabase* — Live | GitHub

- Led a team of 4 at the **Hack-N-Win 3.0** hackathon to build an **AI farming assistant** with 9 tools, including soil analysis, crop disease detection from photos and yield prediction.
- Used **Groq (Llama 3.3 70B)** for fast text answers and **Gemini** to read crop photos and soil reports, with **automatic fallback** to Gemini when Groq hits its rate limit.
- Added a **24-hour response cache** and API-key rotation to keep the app within free AI quotas.

CampusForms | *Next.js, TypeScript, Convex, Tailwind CSS* — Live | GitHub

- Built a live forms platform for universities with **10 question types**, **14 templates**, QR codes, CSV export and Google sign-in for organizers.
- Made anonymous forms truly anonymous: the server **never stores the name, email or IP** of whoever answered, so there is nothing to leak.
- Enforced deadlines, a flood limit and answer types **on the server**, and covered these rules with **automated tests**.

ParkIt | *React, TypeScript, Node.js, Express, Socket.io, MySQL, Razorpay* — Live | GitHub

- Built a real-time parking platform end to end, with **3 role-based portals** and **22 REST endpoints**.
- Updated parking-slot availability for every user in **under a second** using Socket.io, with no polling.
- Added **Razorpay payments**, verified with HMAC SHA-256 signatures and server-side amount checks.

LabExam AI | *Python, LLMs, Machine Learning* — In progress

- Building a lab-exam platform that runs student code in a **sandbox** against hidden tests, and uses **LLMs** to give each student a unique problem and an AI viva on their own code.

Cuprim (side project) | *Swift, SwiftUI, AppKit* — GitHub

- Built and shipped a **macOS menu-bar app** that tracks usage limits across 4 AI coding tools, with signed builds and auto-updates.

Technical Skills

Languages: TypeScript, JavaScript, Python, C++, SQL, Swift
Frontend: React, Next.js, Tailwind CSS, HTML, CSS
Backend: Node.js, Express, REST APIs, Socket.io, JWT Authentication
AI: LLM API integration (Gemini, Groq, OpenRouter), LiteLLM, MCP, Claude Code
Databases & Tools: PostgreSQL, MySQL, MongoDB, Supabase, Convex, Git, GitHub Actions, Docker, Linux

Achievements

Problem Solving: Solved 100+ Data Structures and Algorithms problems on takeUforward.
Writing: Write articles on Hashnode about backend development and authentication.