

# Akarsh Kumar

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## Profile

Full-stack developer and competitive programmer with Top 48 / 180K+ rank in Flipkart GRiD 7.0 and 800+ DSA problems solved across Codeforces (Pupil) & LeetCode. Skilled in delivering low-latency, real-time web applications and scalable backend systems. Passionate about turning business problems into impact-driven software solutions.

## Education

Vellore Institute of Technology, Bhopal

2022 - 2026

Bachelor of Technology in Computer Science and Engineering

## Technical Skills

Languages:	C++, C, Python
Frontend:	HTML, JavaScript, React.js, Redux, Tailwind CSS
Backend:	Node.js, Express.js, REST APIs, Socket.io, Ably
Databases:	MySQL, PostgreSQL, Firebase
Coursework:	Data Structures & Algorithms, Operating Systems, Computer Networks, Object Oriented Programming, Database Management Systems

## Projects

### KeyFury – Full-Stack Multiplayer Typing Platform

🐙 [GitHub](#)

🔗 [Live Demo](#)

**Tech Stack:** React.js, Node.js, Express.js, Socket.IO, Upstash Redis, Firebase, Recharts, Tailwind CSS

- **Architected** a full-stack, real-time multiplayer typing game, reducing latency by leveraging **Socket.IO** for event-driven communication and a server-authoritative timer synchronized every **2 seconds** to ensure fair race starts.
- **Engineered** significant performance optimizations by throttling client-side state updates to **300ms intervals** using a custom React hook, reducing server load and bandwidth usage during peak gameplay.
- **Designed** a hybrid data architecture using **Upstash Redis** for managing ephemeral game state (player stats, chat history) and a **Node.js/Express REST API** for fetching final, comprehensive game results and analytics.
- **Implemented** secure user registration and login flows supporting both email/password and Google OAuth providers using **Firebase Authentication**, protecting user data and session integrity.
- **Developed** a dynamic and responsive UI with **React** and **Tailwind CSS**, visualizing post-game analytics and player performance trends with interactive graphs using the **Recharts** library.

### UniSphere – Full-Stack University Community Platform

🐙 [GitHub](#)

🔗 [Live Demo](#)

**Tech Stack:** React.js, Redux Toolkit, Node.js, PostgreSQL, Stripe, Ably, JWT, Cloudinary, Tailwind CSS

- **Architected** a full-stack community platform to centralize university operations, featuring role-based access control (Admin, Student) secured by **JWT** and password hashing with **bcrypt**.
- **Engineered** a high-performance backend with **Node.js** and a normalized **PostgreSQL** schema, optimizing queries with strategic indexing to achieve an average API response time of under **200ms**.
- **Integrated** multiple third-party APIs to build core features: **Stripe** for payment processing (achieving a **99.9%** success rate), **Ably** for sub-second real-time messaging, and **Cloudinary** for optimized media storage and CDN delivery.
- **Developed** a scalable frontend using **React** and **Redux Toolkit** to manage complex application state for features like dynamic event calendars, interactive social feeds, and administrative dashboards.
- **Built** a comprehensive administrative dashboard to provide data-driven insights into student engagement, event participation, and revenue, replacing manual data collection and enabling efficient university management.

## Achievements

- National Grand Finalist, **Flipkart GRiD 7.0** (2025) — Top 48 out of 180K+ participants.
- Solved **800+ DSA problems** across LeetCode, Codeforces, and GeeksforGeeks.
- Rank **1229** in **TCS CodeVita Season 12** (2024) — among the world's largest coding contests.
- Achieved **Pupil** rank on **Codeforces** (Peak 1224) and **1824** LeetCode rating (Top 7.66% globally).