

YASH BAVADIYA

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EDUCATION

Indian Institute of Technology, Jodhpur

Aug 2024 – Jul 2028

Bachelor's Degree - Computer Science and Engineering - CGPA - 7.21

Jodhpur, Rajasthan

TECHNICAL SKILLS

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

Technologies/Frameworks: React, Next.js, Express, Prisma, Qt (C++), PostgreSQL, MongoDB, Redis, WebSockets, WebRTC, Firebase, Docker, Linux/UNIX environments, Relational Databases, REST APIs, TCP/IP

Tools: Git, Nginx, GitHub Actions, Vercel, Postman, VS Code

Core Competencies: Data Structures and Algorithms, Object-Oriented Programming, Operating Systems, System Design, Distributed Systems, REST APIs

EXPERIENCE

Google Summer of Code 2026

May 2026 – Jun 2026

Kdenlive @KDE Community | Open Source Contributor, C++ and Qt

Remote

- Secured selection for **GSoC 2026** among 1,200 global contributors to implement Kdenlive's **RGB curve editor, gradient editor, and speed ramp widgets** in C++ and Qt.
- Integrated **20 contributions** across Kdenlive and upstream repositories, resolving an **11-year-old bug** via a gap-detection algorithm shipping to **41,000 monthly Flathub installs**.

Undergraduate Researcher

Jul 2025 – Nov 2025

Indian Institute of Technology, Jodhpur | Supervisor: Dr. Pratik Mazumder

IIT Jodhpur

- Engineered an offline **Retrieval-Augmented Generation pipeline** integrating FAISS vector search with 4-bit quantized Phi-3 and Flan-T5-XL, achieving a **+71.77% average improvement** across 8 ROUGE metrics.
- Attained **3 second query latency** on 300-page PDFs and deployed the solution to **15 IIT Jodhpur students** during semester exams across 3 feedback-driven iterations.

PROJECTS

Flock | [GitHub](#) | [npm](#) | TypeScript, WebSocket, Redis, React, Docker

Feb 2026 – Jun 2026

- Released 3 npm packages enabling multiplayer cursors and live presence in web applications via a **10-line integration**, installable as a **55MB** self-hosted Docker image or npx.
- Implemented Redis pub/sub message relay across server instances with keyspace-notification-driven user eviction, reducing stale presence state to under **30 seconds** on ungraceful disconnects.
- Delivered cursor position smoothing with continuous mid-animation target updates, exponential backoff reconnection, and **58 tests** covering throttling, time-to-live eviction, and message delivery.

DaemonDoc | [GitHub](#) | [Live](#) | TypeScript, Express, MongoDB, Redis (BullMQ), Docker

Jan 2026 – May 2026

- Automated README generation on git push via GitHub Webhooks, achieving an **85% success rate** across **959 automation runs** processing 68 active repositories for **50 users**.
- Architected a Redis (BullMQ) job pipeline with exponential backoff and fault tolerance, reducing token costs by **70%** via source file filtering before prompt construction.
- Orchestrated **4 services** with Docker Compose, configuring an Nginx reverse proxy and GitHub Actions pipeline to enable zero-downtime deployments.

IIT Jodhpur PHC System | [GitHub](#) | Node.js, Express, PostgreSQL, Prisma, Docker

Jan 2026 – Apr 2026

- Spearheaded backend architecture to replace a paper-based workflow with a permission-based platform featuring **6 roles, 63 endpoints, and 20 database models** using JSON Web Token and LDAP authentication.
- Verified reliability via **48 test cases** and load tests at **20 concurrent users**, securing production deployment approval projecting **5 staff-hours saved per day**.

COURSEWORK

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|----------------------------------|-------------------------------|------------------------------|
| • Data Structures and Algorithms | • Database Management Systems | • Discrete Mathematics |
| • Object-Oriented Programming | • Software Engineering | • Pattern Recognition |
| • Operating Systems | • Machine Learning | • Probability and Statistics |

ACHIEVEMENTS

- JEE Advanced 2024: AIR **3449**; JEE Main 2024: **99.65** percentile, AIR **5680**.
- Achieved Max Rating of **1429** on Codeforces; solved **450+** algorithmic problems on LeetCode in C++.
- Merged **84+ open-source contributions** across GitHub and GitLab, shipping features and bug fixes to **Kdenlive**, **Vitest**, **Wagtail**, and **croc**.

LEADERSHIP

- Junior Core Team Member** at DevUp Labs, IIT Jodhpur; mentored 30 students and facilitated 2 open-source workshops.
- Core Member** at E-Cell, IIT Jodhpur; supported 3 entrepreneurship events and initiatives over 9 months.
- Core Member** at Programming Club, IIT Jodhpur; co-organized 5 contests and 10 sessions on competitive programming.