

Bhavesh Kukreja

[Mail](#) | [LinkedIn](#) | [GitHub](#) | [LeetCode](#)

EDUCATION

University of Mumbai – Thadomal Shahani Engineering College

Mumbai, India

Bachelor of Engineering in Computer Engineering; CGPA: 9.37/10.0

2023 – 2027

Relevant Coursework: Data Structures & Algorithms, Web Development, Database Systems, Computer Networks

TECHNICAL SKILLS

Languages: Python, C, JavaScript

Backend: FastAPI, Django, Flask, Django Channels

Frontend: React, HTML, CSS

Databases: PostgreSQL, SQLite, Redis, Alembic

Tools & Technologies: Docker, WebRTC, PeerJS, Git, RESTful APIs, Vite

PROJECTS

Rexus | *FastAPI, React, Redis, PostgreSQL, Docker* | [GitHub](#) | [Video Demo](#)

- Developed a **FastAPI** API Gateway with key authentication, response caching, and rate limiting
- Implemented a **Redis-based** sliding window rate limiter and high-speed cache to reduce API latency
- Built a non-blocking, **asynchronous logging system** using a **Redis** buffer and background worker
- Designed a real-time analytics dashboard using **React** and **WebSockets** to display live metrics
- Containerized the full application stack using **Docker Compose**

King's Gambit | *React, Django, WebRTC, Docker, PostgreSQL, Redis* | [GitHub](#) | [Video Demo](#)

- Developed a **full-stack** real-time chess platform with **React** frontend, **Django** backend, and **PostgreSQL**
- Implemented **WebSocket-based** real-time gameplay using **Django Channels** with **Redis** for message brokering
- Integrated **WebRTC** video calling via **PeerJS** for peer-to-peer communication, reducing server bandwidth usage
- Designed a containerized, **multi-service architecture** with **Docker Compose** for deployment
- Built comprehensive security with authentication, **CSRF** protection, and **API rate-limiting**

PaperPal | *Python, Gemini API* | [GitHub](#) | [Video Demo](#)

- Built a **CLI research assistant** with multi-format document processing (PDF, DOCX, TXT) and text extraction
- Integrated **Gemini API** for AI-powered document summarization and interactive Q&A capabilities
- Implemented error handling and optimized text parsing using **pymupdf** and **python-docx** libraries

EXTRACURRICULAR ACTIVITIES

Technical Writing

- Analyzed **CPython** source code to explain how Python lists use a **dynamic C array** for performance | [Article](#)
- Explained Python's dictionary structure in **CPython**, detailing its **O(1) lookups** and insertion order | [Article](#)

Competitive Programming

- Solved **140+** Data Structures and Algorithms problems on [LeetCode](#), focusing on problem-solving

Tech Enthusiasts Community – Community Lead

- Initiated and manage a **tech community** with **330+** members for discussions on programming and tech trends

JPMorgan Code for Good Hackathon – Participant

- Developed **React** frontend components for [Purnata](#) NGO within 24-hour hackathon timeframe
- Built responsive UI including Admin Dashboard, Volunteer Dashboard, and Victim Management forms

CERTIFICATIONS

Harvard CS50x – Introduction to Computer Science

Harvard CS50P – Introduction to Programming with Python