Bhavesh Kukreja

Mail | LinkedIn | Portfolio | GitHub | LeetCode

EDUCATION

University of Mumbai – Thadomal Shahani Engineering College Mumbai, India
Bachelor of Engineering in Computer Engineering (CGPA: 9.31/10.0) *2023 – 2027*

EXPERIENCE

Backend Engineering Intern (Python) December 2025 – February 2026
Zobyt *Remote*
- Built a newsletter scheduling API in **FastAPI** with recurring tasks, user rate limits, and error rollback
- Reduced a data-sync script's runtime from 45 minutes to 4 by fixing N+1 API calls with metadata pre-fetching
- Resolved a **PostgreSQL** connection leak by refactoring the application's database session handling
- Fixed a scheduler bug bypassing rate limits by correcting a data model **serialization** error
- Improved CI/CD stability by refactoring flaky tests with deterministic database queries in the **Pytest** suite

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** sliding window rate limiter and response cache to minimize API latency
- Built an **async logging system** with a **Redis** buffer and background worker to prevent I/O blocking
- Designed a real-time analytics dashboard in **React** using **WebSockets** for live metrics
- Containerized the application stack for deployment using **Docker Compose**

King's Gambit | *React, Django, WebRTC, Docker, PostgreSQL, Redis* | GitHub | Video Demo
- Developed a **full-stack**, real-time chess platform using **React**, **Django**, and **PostgreSQL**
- Used **Django Channels** and **Redis** to implement **WebSocket-based** real-time gameplay
- Integrated **WebRTC** video chat using **PeerJS** for P2P communication to reduce server bandwidth
- Designed a **multi-service architecture** and containerized the application with **Docker Compose**
- Implemented security features including authentication, **CSRF** protection, and API rate-limiting

PaperPal | *Python, Gemini API* | GitHub | Video Demo
- Developed a **CLI tool** for parsing and extracting text from multiple document formats
- Integrated the **Gemini API** to enable document summarization and interactive Q&A
- Used **pymupdf** and **python-docx** for multi-format text extraction and implemented error handling

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 **180+** Data Structures and Algorithms problems on LeetCode, focusing on problem-solving

Tech Enthusiasts Community – Community Lead
- Initiated and manage a **tech community** with **450+** members for discussions on programming and tech trends

TECHNICAL SKILLS

Languages: Python, C, JavaScript, Go
Backend: FastAPI, Django, Flask, Django Channels
Frontend: React, HTML, CSS
Databases: PostgreSQL, MySQL, SQLite, Redis
Tools & Technologies: Docker, Alembic, WebRTC, PeerJS, Git, GitHub

CERTIFICATIONS

Harvard CS50x – Introduction to Computer Science
Harvard CS50P – Introduction to Programming with Python