Kairav Bhatia

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Education

Vivekananda Institute Of Professional Studies, GGSIPU — New Delhi, India
B.Tech in Computer Science and Artificial Intelligence; CGPA: 7.85/10.0 — *July 2022 – July 2026*
DAV Public School CBSE; *Class X: 81% (2020), Class XII: 83% (2022)*

Skills

Languages: Python, C++, Go, JavaScript
Tools: Node.js, Express.js, Flask, FastAPI, RESTful APIs, MySQL, MongoDB, React.js, Git, Linux, Bash, Nginx, Docker, CI/CD Pipelines
Coursework: Data Structures and Algorithms, Object Oriented Programming, Database Management Systems, Operating Systems, Computer Networks, System Design, Artificial Intelligence, Machine Learning

Experience

- **Secure Elements** — *Software Engineering Intern, Remote* — *March 2026 – Present*
  - Built Jenkins CI/CD pipelines for Yocto-based embedded systems, internal applications, and AI models.
  - Engineered an automotive cybersecurity log simulator with AUTOSAR-style IDS, OTA, and UDS log generation, syslog conversion, and vehicle theft attack emulation to support MSOC workflows and automotive security analysis.
- **Devnovate.co** — *Software Engineering Intern, Remote* — *May 2025 – January 2026*
  - Deployed and managed a full-stack application on a hardened Debian server using Nginx and PM2, implementing SSH key authentication, restricted firewall rules, and user permissions to improve server security.
  - Supported **1,000+ users** in the first week with under 300ms response times, scaling to **100k+ total users**.
- **Self Employed** — *Freelance Software Engineer, Remote* — *May 2024 – May 2025*
  - Shipped software products to **10+ clients globally**, owning projects end-to-end from design to deployment. Built secure web apps, Linux servers, and APIs, delivering stable and maintainable production systems.

Projects

- **Scalable URL Shortening Service** — *Go, APIs, Concurrency, Rate Limiting, Caching, Load Testing* — Link
  - Built a backend URL shortening service in Go with clean REST APIs and collision-safe short code generation.
  - Implemented concurrency-safe request handling with token-bucket rate limiting, in-memory caching for hot URLs, persistent storage, and health/readiness endpoints to improve performance and reliability.
  - Stress-tested the service under concurrent load to measure throughput and latency, identified bottlenecks, and optimized request handling based on observed performance metrics.
- **Cloud-Native AI Deployment Platform** — *FastAPI, React, PostgreSQL, Docker, Prometheus* — Link
  - Built a cloud-native platform that deploys machine learning models as scalable inference APIs through automated containerization, model versioning, and deployment orchestration.
  - Designed a complete model lifecycle management system with deployment monitoring, health validation, centralized logging, and interactive inference testing, enabling reliable and production-ready model serving.
- **Linux Command-Line Assistant Tool** — *Go, Bash, Linux* — Link
  - Developed a Go-based Linux CLI assistant that translates natural language into shell commands, featuring command validation, dry-run execution, history logging, and safeguards for secure Unix system interaction.
- **Additional Live Projects**
  - Minimalist Snake Game | Virtual Banking System | Chef Hiring Platform | Single Layer Perceptron

Competitive Programming

- **Solved 800+** algorithmic problems across Leetcode, Codeforces, TakeUForward, and other online platforms.
- Achieved competitive programming ratings: Leetcode (max **1652**), Codeforces (max **1081**).

Achievements

- Completed **Harvard CS50x** (Introduction to Computer Science), including 10 problem sets and one final project.
- **1st place** in web technologies quiz competition at VIPS-TC, Pitampura.
- **1st place** in debugging competition at Amity University, Noida.
- Mentored teams at **national** and **international hackathons** on software development and technical problem-solving.
- Active Linux user and contributor to the developer community through GitHub and Stack Overflow.