

Gaurav Kumar

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Education

Panjab University, Chandigarh, India *2023 – 2026 (Expected)*
Bachelor of Computer Applications (BCA)
GMSSS Sector 23, Chandigarh, India *Class XII*
Senior Secondary Education

Technical Skills

Programming Languages: Go, JavaScript, SQL, HTML/CSS
Backend & APIs: Node.js, Gin (Go), Express.js, RESTful APIs
Databases: PostgreSQL, MongoDB, Redis
DevOps & Cloud: Docker, Kubernetes (basics), Prometheus, Git
Concepts: Concurrency, Distributed Systems (fundamentals), Caching, Rate Limiting

Projects

QryPilot *Go, Groq AI, Prometheus*

- Built an AI-driven observability tool that translates natural language into PromQL queries.
- Enabled engineers to query infrastructure metrics using plain English, reducing PromQL learning overhead.
- Integrated Groq AI for low-latency query interpretation optimized for real-time monitoring use cases.
- Designed with production observability workflows in mind (alerts, metrics exploration).

Sentinel *Go, Concurrency*

- Developed a high-throughput concurrent web scraping system using worker pools in Go.
- Implemented rate limiting and request throttling to avoid detection and anti-bot mechanisms.
- Optimized memory usage to support large-scale crawling with minimal overhead.
- Designed for extensibility to support distributed crawling in future iterations.

URL Shortener *Go, Docker*

- Built a low-latency URL shortening service with focus on performance and simplicity.
- Used Redis as a caching layer to enable fast redirection and high availability.
- Containerized the application with Docker to ensure consistent deployment across environments.

Relevant Coursework

- Database Management Systems
- Operating Systems
- Computer Networks
- Software Engineering Principles

Additional Information

- Comfortable working in Linux-based development environments.
- Strong interest in backend engineering, infrastructure tooling, and DevOps/SRE concepts.
- Actively building and refining production-oriented projects beyond academic requirements.