

# Shubham Kumar

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## PROFESSIONAL SUMMARY

Senior Backend Engineer with 4.5+ years of experience in microservices architecture, distributed systems, and cloud-backed backend development. Backed by a research-based Master's from NITK. Seeking an **SDE3 role** to drive backend architecture and deliver scalable, high-impact systems.

## WORK EXPERIENCE

### Under25 - Collective Artists Network

Bangalore, India

Senior Backend Engineer

09/2024 - Present

- **Designed and launched a large-scale space moderation system** used by 5,000+ admins/moderators, improving review efficiency and ensuring 100% coverage of flagged content.
- **Architected Leaderboard 2.0** ranking 500,000+ users across levels and leagues based on 10M+ activity signals, improving accuracy and scalability of ranking workflows.
- **Built a personalized recommendation system** serving 2M+ users, leveraging engagement signals to deliver tailored content feed and significantly improve relevance.
- **Implemented automated certificate generation & verification**, boosting user participation and retention across the platform.
- **Owned and maintained core backend services** powering 500K+ monthly active users; performed 15+ code reviews per sprint and mentored 2 junior developers to improve team velocity.
- **Developed a high-performance recommendation engine** using Django + Redis that increased user content engagement by ~30% through tag-weighted and interaction-based ranking.
- **Engineered a robust Role-Based Access Control (RBAC) system** with 5 hierarchical roles, securing 100+ sensitive endpoints and standardizing authorization across services.
- **Skills:** Python, Django, PostgreSQL, Redis, ElasticSearch, AWS (EC2, S3, Aurora), Numpy, Pandas, PyTorch

### Scale AI - G2i.inc

San Francisco, California (Remote)

Software Engineer(Contract)

03/2024 - 09/2024

- **Reviewed and validated 1,000+ lines of AI-generated backend code weekly**, ensuring correctness, performance, security, and adherence to engineering best practices before integration into production systems.
- **Diagnosed and resolved 200+ complex backend and algorithmic issues**, consistently delivering optimized, high-performance solutions used across multiple services.
- **Identified and mitigated 100+ potential vulnerabilities** in AI-assisted code submissions, improving system security, reliability, and compliance with internal coding standards.
- **Skills:** Python3, Pandas, Numpy, Matplotlib, scikit-learn

### Techstat dynamics pvt limited

Ludhiana, Punjab (Remote)

Lead Software Engineer (Freelancer)

11/2023 - 02/2024

- **Designed and deployed a production-grade microservices architecture** comprising 15+ independently scalable services, improving modularity, deployment velocity, and fault isolation—reducing overall deploy times by **40%**.
- **Built real-time WebSocket infrastructure** delivering live trading data for **500+ companies**, ensuring low-latency updates and high system availability under peak load.
- **Reduced system latency by 25%** by integrating **Redis Pub/Sub** for efficient inter-service communication and event propagation.
- **Containerized the entire platform using Docker Compose**, standardizing local and production environments and cutting manual deployment effort by **~80%**.
- **Implemented end-to-end monitoring and observability** with **Prometheus + Grafana**, enabling proactive alerts, deeper visibility, and **40% faster incident detection and resolution**.
- **Skills:** Python3, Django, web socket, PostgreSQL, ReactJS, Redis, Nodejs, Nginx, Docker, Postman, Grafana

## Radisys Corporation

Senior Software Engineer, 5G Platform Team

Bangalore, Karnataka

12/2022 - 11/2023

- **Reduced JIO CCDU server boot time by 50+ seconds** and optimized binaries to achieve a **72% size reduction**, significantly improving deployment speed and resource efficiency.
- **Enhanced SysMon with customizable alerting and performance metrics**, enabling ops teams to detect and act on **~25% more system anomalies**.
- **Led a 5-member engineering team** during an internal hackathon and served as the **mandatory reviewer for 6 critical platform repositories**, ensuring code quality, architectural consistency, and secure deployments.
- **Automated build pipelines with Jenkins**, integrated static analysis, and improved test coverage by **~35%** using tailored GCC flag configurations.
- **Developed startup scripts and environment initialization logic for ProcMon**, ensuring deterministic runtime behavior and performance stability; applied and validated patches while building multiple open-source libraries for custom environments.
- **Skills:** Object-Oriented Design, High level Design, Draw.io, RHEL, Docker

Software Engineer, 5G Platform Team

07/2021 - 12/2022

- Resolved 15+ critical bugs in System Monitor, eliminating false positives affecting 3 production deployments.
- Added 40+ unit and integration test cases for core monitoring tools.
- Coordinated with the OAM team to validate rollback scenarios across 3 major release cycles.
- **Skills:** C/C++, Bash, Python, Linux, CentOS

## Think201

Bangalore, Karnataka (Remote)

Software Engineer Intern, Web Application Backend Team

09/2020 - 11/2020

- Built backend APIs and model schemas for 5+ web applications using Node.js and PostgreSQL.
- Worked with the frontend team to deliver 5+ features across 2 product sprints, adhering to tight deadlines.
- **Skills:** Node.js, Typescript, PostgreSQL, MongoDB, Express, Swagger, Postman

## PROJECTS

### National Institute of Technology Karnataka

Surathkal, Karnataka

Research Scholar, Information Security

08/2019 - 12/2021

- Conducted research on network-level mitigation of Mirai malware in IoT.
- Created an isolated environment to demonstrate Mirai malware propagation.
- Implemented a solution to mitigate Mirai malware.
- Published 3 research papers on the findings and solutions developed in this project.
- **Skills:** Python, Flask, Mysql, Docker, C, Golang, React.js, IoT, DDoS attacks

## TECHNICAL SKILLS

**Languages:** Python, Javascript, C/C++

**Frameworks:** Django, FastAPI, Node.js, Express.js, Flask

**Frontend:** HTML, CSS, ReactJS, Typescript

**Databases:** PostgreSQL, MySQL, MongoDB, Cassandra, Redis

**Cloud & DevOps:** AWS (EC2, RDS, Lambda, S3, IAM, OpenSearch), GCP, Docker, Jenkins, GitHub Actions, Nginx

**Testing & Monitoring:** PyTest, Postman, Swagger, JMeter, Prometheus, Grafana

**Concepts:** REST, GraphQL, CI/CD, System Design, Microservices, WebSockets, RBAC, OAuth2, OOP, DSA, Web Security

## EDUCATION

### National Institute of Technology Karnataka

Surathkal, Karnataka

M.Tech(Research) in Computer Science & Engineering - Information Security

08/2019 - 12/2022

### Lovely Professional University

Phagwara, Punjab

B.Tech in Computer Science & Engineering

09/2015 - 06/2019