

VIKAS KUMAR

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SUMMARY

Software Engineer with 4.5+ years building scalable backend systems, cloud-native microservices, RESTful APIs, and data-intensive applications. Skilled in backend architecture, distributed systems, database optimization, caching, asynchronous processing. Proficient in low-level system programming, multi-threading, and performance optimization.

EXPERIENCE

Software Engineer II

Apr 2026 – Present

Cadence Design Systems

Noida, UP

- Enhanced a low-level C code generation engine, translating **PSS** verification models into optimized C test programs for efficient execution across diverse semiconductor architectures, including bare-metal.
- Strengthened the code generation pipeline by resolving critical code generation defects, improving **memory management** and **thread-safe execution** in a multithreaded environment, refactoring core components for scalability, and ensuring robust GCC (`-Werror`) compliant code generation.

Software Engineer I

Sep 2022 – Mar 2026

Samsung Electronics, R&D Institute - Delhi

Noida, UP

- Enhanced microservice performance by adding Redis-based caching, solidifying concurrency handling, and refactoring heavy workloads into asynchronous pipelines, delivering **30% faster** user experience under high traffic.
- Implemented a robust media-upload pipeline using presigned S3 URLs and multipart resumable uploads for fault-tolerant delivery.
- Achieved a **45% faster publish cycle** with sub-minute content delivery to **1,000+ displays** by optimizing Publisher Service logic for scheduling, playlist generation, and efficient data handling.
- Built a complete **Activity Log System** from scratch, capturing user actions through a queue-driven pipeline and enabling fast lookups with composite indexing.
- Reduced on-site maintenance by **40%** by building an Early Warning module with real-time alerts, automated health checks, and energy-usage insights.
- Delivered a production-grade MVP in **3 months** by building a microservice cloud architecture with asynchronous I/O and RESTful APIs, sustaining **99.9% endpoint reliability** validated via comprehensive **K6** load tests.

Secured Samsung's Professional SWC certification, earned by only **5%** of peers.

Analyst

Aug 2021 – May 2022

The Smart Cube (a WNS Company)

Noida, UP

- Drove market intelligence for the **EMEA Insights Team** of a leading US-based Food & Beverage company, automating recurring commodity-price reports via **Selenium** scripts pulling API data from Nielsen, NPD, Euromonitor, Mintel, and LexisNexis, and optimizing **SQL** queries that improved insight-generation speed by **30%**.

EDUCATION

Delhi Technological University

New Delhi, DL

Bachelor of Technology in Electrical Engineering, Minor in Computer Science

Aug 2017 – May 2021

Coursework: Data Structures and Algorithms • Object Oriented Programming • Computer Networks • Operating Systems • Database Management Systems • Cloud Computing • Linear Algebra and Probability • Numerical Optimization Methods

SKILLS

Programming Languages: C/C++, Java (Core + OOPs), JavaScript / TypeScript (ES6+)

Backend Technologies: Node.js & Express.js, Spring & Spring Boot, WebSockets, Microservices, Serverless, JWT

Database Management: PostgreSQL, MySQL, MongoDB, DynamoDB, Redis (Caching & Session Store)

Database Optimization & Scaling: Query Optimization, Indexing, Sharding, Partitioning, Replication, Backup & Restore

Cloud & Infrastructure: Amazon Web Service, Google Cloud, Jenkins, CI/CD Pipelines, Git (GitHub), Perforce (P4)

AWS: EC2, ECS, Lambda, API Gateway, SQS, SNS, S3, Scheduled Triggers, CloudFront, CloudWatch

GCP: Compute Engine, Cloud Run, Cloud Functions, Cloud Storage, Cloud Logging, Cloud Scheduler

Systems Programming: Linux, GCC, GDB, Multithreading, Performance Tuning, Resource Optimization

Frontend Technologies: HTML5 & CSS3, React.js, State Management, Asynchronous Requests

Testing Frameworks: UI Testing with Selenium, Load Testing with K6 & JMeter, Unit Testing with Jest & JUnit, Postman

PROJECTS & PUBLICATIONS

Verify | *MongoDB, Express, React, Node.js, JWT* | [Live Demo](#) | [GitHub](#)

Apr 2024 – Oct 2024

- Built a MERN community app for sharing poetry and stories, with JWT-based auth and REST APIs.

Contactless Parking with IoT & Web App | *AWS, Node.js* | [Video](#) | [Publication](#)

Apr 2020 – Sep 2021

- Built a cloud-based parking system with real-time updates, pre-booking, auto-billing, and Arduino-based QR-code.