

# SHUBHAM KUMAR

Software Engineer

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## SUMMARY

Backend Software Engineer with 4 years of expertise building scalable, high-performance RESTful APIs and microservices using Node.js, Express.js, NestJS, and Go. Proven track record of optimizing system performance by 30%, mentoring cross-functional teams, and architecting secure backend solutions serving 15,000+ concurrent users. Expert in API development, database optimization, cloud infrastructure (AWS), and implementing CI/CD pipelines for enterprise applications.

## SKILLS

<b>Languages:</b>	JavaScript (Node.js), TypeScript, Golang, SQL
<b>Backend Technologies:</b>	Express.js, NestJS, RESTful APIs, GraphQL
<b>Databases &amp; Caching:</b>	MySQL, PostgreSQL, MongoDB, Redis, Query Optimization, Database Design, Indexing
<b>Message Queues:</b>	Kafka, BullMQ, RabbitMQ
<b>Cloud &amp; DevOps:</b>	AWS (EC2, S3, Lambda, SES, Lambda, API Gateway), Docker, Nginx, PM2, CI/CD, GitHub Actions, Terraform
<b>Testing &amp; Quality:</b>	Jest, Test-Driven Development (TDD)
<b>Security &amp; Auth:</b>	JWT, OAuth 2.0, RBAC, Passport.js, Casbin, Session Management, API Security
<b>Frontend:</b>	React.js, jQuery, EJS, Bootstrap, HTML, CSS
<b>Additional:</b>	Git, Agile/Scrum, System Design, Performance Optimization

## EXPERIENCE

March 2022 - Present

### Codebucket Solutions Pvt. Ltd.

Software Development Engineer II

- Architected and maintained RESTful APIs serving 100K+ daily requests with 99.9% uptime, implementing data validation layers and encryption protocols to ensure data integrity for 5M+ user records.
- Identified and resolved critical database query bottlenecks through strategic indexing and query optimization, reducing average API response time from 2.5s to 400ms and improving system throughput by 45%.
- Established coding standards and design patterns (SOLID, DRY) using ESLint and SonarQube, improving code maintainability and enabling system to scale from 10K to 15K concurrent users while boosting performance by 30%.
- Led 50+ code reviews implementing PR templates and automated testing requirements, improving code quality scores by 35% and reducing production bugs by 20%.
- Mentored and onboarded 5 junior developers on Node.js best practices, RESTful API design, and testing methodologies, increasing team velocity by 20% and reducing onboarding time by 40%.
- Optimized backend API endpoints and implemented response caching with Redis, reducing average response time by 60% and improving frontend data loading efficiency by 25%.
- Designed and implemented secure authentication systems including role-based access control (RBAC), JWT tokens, and OAuth 2.0 using Passport.js and Casbin, securing APIs handling 50K+ daily authentication requests.

## PROJECTS

Node.js, Express.js, TypeScript, SQLite, Swagger, Jest

### Flash Learn - Your Personal Learning System

- Architected a personal learning agent using Node.js and TypeScript that converts web content, YouTube videos, and PDFs into structured Markdown notes and Anki flashcards, integrating with Notion API for automated knowledge management.
- Implemented multi-format content processing pipeline handling blog posts, video transcripts, and PDF documents with AI-based content extraction, reducing manual note-taking time by 80%.
- Engineered configurable flashcard generation engine supporting configurable number of flashcards and SQLite-based caching system, improving generation speed by 50% and enabling offline functionality.

Node.js, Express.js, MySQL, Docker

### Udyami Yojna Loan Management System (Bihar Govt.)

- Re-architected legacy backend infrastructure using Node.js and Express.js, implementing input validation, parameterized queries, and JWT authentication to reduce security vulnerabilities by 30%.
- Designed and developed 25+ RESTful API endpoints with Swagger documentation and comprehensive test coverage (85%), reducing frontend development time by 40% through clear API contracts.
- Implemented automated data backup system and database migration scripts using Docker, ensuring zero data loss and reducing deployment time by 60%.

Node.js, Express.js  
MySQL, Redis  
jQuery, Ejs

### Rajaswa Karamchari Admin App (Bihar Land Revenue Dept.) 🔗 🔗

- Built scalable admin platform supporting 15,000+ concurrent administrators across Bihar Land Revenue Department with hierarchical role-based authentication (4 admin levels) using Passport.js.
- Optimized complex MySQL queries with joins on 40M+ record database through strategic indexing, query restructuring, and Redis caching layer, improving data retrieval speed from 8s to 2.5s (70% improvement).
- Developed real-time reporting dashboard with EJS templates and jQuery AJAX calls, processing 100K+ daily transactions with 99.5% uptime.

Node.js, Express.js  
MySQL, EJS  
jQuery, Bootstrap

### Bihar Minority Department's Loan Management System 🔗

- Engineered dynamic EMI calculation engine with configurable interest rates, grace periods, and prepayment logic, reducing manual calculation errors by 50% and processing 1000+ loan applications monthly.
- Built comprehensive loan lifecycle management system handling application submission, approval workflow (5 stages), disbursement tracking, and automated payment reminders via SMS/email integration.
- Implemented audit logging and data encryption (AES-256) ensuring compliance with financial regulations and improving system reliability by 30%.

## EDUCATION

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2022 - 2024

**Chandigarh University**  
CGPA: 7.0/10.0

**Masters in Computer Application**

2017 - 2020

**M.M.H.A.PU, Patna**  
Percentage: 72.17%

**Bachelors in Computer Application**