

# Anurag Joshi

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## EDUCATION

- **Clark University** Worcester, MA
  - *Masters in Computer Science*
    - **Courses:** Operating Systems, Data Structures, Analysis of Algorithms, Artificial Intelligence in Large Language Models (LLM), Machine Learning, Networking, Databases

## SKILLS SUMMARY

- **Languages:** Java, Shell, C/C++, Oracle SQL, Perl
- **Frameworks:** Spring Boot, Hibernate, JUnit, Kafka and Redis.
- **Library:** React
- **Tools:** Git, Serena, Plastic SCM
- **Database:** PostgreSQL, MySQL, Redis, Apache Kafka, Oracle
- **Platforms:** Linux (Ubuntu, Solaris)/Unix, GitHub, Windows, AWS (Lambda, DynamoDB, API Gateway, S3, Glue, RDS, Athena)
- **Soft Skills:** Leadership, Writing, Public Speaking, Time Management

## EXPERIENCE

- **Hexaware Technologies** United States - Remote  
*Software Engineer (Full-time)* May 2024 - August 2024
  - Developed large-scale distributed applications using Java/Spring Boot microservices, deployed on AWS with RDS (PostgreSQL), enabling real-time EMI payment **monitoring for 10,000+ transactions daily**.
  - Engineered high-performance RESTful APIs with Spring Boot, reducing latency by **40% through optimized database queries and caching strategies**.
  - Implemented Apache Kafka for asynchronous event processing and Redis for distributed caching, improving system reliability and reducing inter-service latency by 30%.
  - Designed and documented **GraphQL APIs** for internal services, improving data fetching efficiency by 30%.
  - Debugged and optimized multithreaded Java applications using JDB/Eclipse Debugger, resolving 50+ performance bottlenecks and **improving throughput by 25%**.
  - Containerized services using Docker and deployed on AWS ECS, streamlining CI/CD pipelines and reducing **deployment time by 35%**.
- **Tata Consultancy Services (Client: State Bank Of India (SBI))** Mumbai, India  
*Software Developer (Full-time)* September 2020 - August 2023
  - Designed and deployed 15+ RESTful APIs using Spring Boot, integrating third-party banking services and reducing **API response time by 40%** for 10,000+ daily users.
  - Built event-driven microservices using Kafka, enabling real-time transaction processing and improving system **scalability by 50%**.
  - Secured financial APIs with HTTPS/SSL-TLS (HttpsURLConnection) and certificate validation, reducing security vulnerabilities by **20% for 1M+ monthly transactions**.
  - Optimized Hibernate ORM performance by 35% through indexing, batch processing, and lazy loading, enhancing data retrieval efficiency.
  - Achieved **95% test coverage** with JUnit and Mockito, reducing production bugs by 30% and improving software reliability.
  - Implemented event-driven microservices architecture using Kafka for real-time transaction processing.
  - Wrote unit tests using JUnit, **achieving 95% test coverage** and reducing **production bugs by 30%**.
  - Collaborated with cross-functional teams (UX, QA, DevOps) to deliver 5+ enterprise applications, ensuring 100% on-time delivery.
  - Implemented Encryption and Decryption using RSA in C and Java, ensuring data confidentiality for sensitive **financial transactions. Reduced security vulnerabilities by 20%**.
  - Assisted with the installation, configuration, and management of Linux infrastructure. Monitored heartbeat of Linux/Unix applications, troubleshoot issues, and performed Root Cause Analysis (RCA), **improving system reliability by 25%**.
  - Architected scalable microservices using Spring Boot and Kafka, handling 1M+ daily transactions with 99.9% uptime. Optimized API response **time by 40%** through caching (Redis) and database sharding.

- Developed, customized, and monitored **10+ ETL processes using Scheduled Jobs and SQL Loader**, reducing data transfer time by 40% and improving data accuracy by 20%.
- Wrote **100+ unit tests** using Jest and React Testing Library, achieving 90% test coverage and reducing production bugs by 30%.
- Improved frontend performance by **25% through code optimization**, lazy loading, and efficient state management using React Hooks and Redux.
- Implemented client-side routing using **React Router**, enabling smooth navigation within the app without page reloads, enhancing user experience.
- Managed code repositories using Git, ensuring efficient collaboration across **20+ developers and reducing merge conflicts by 40%**.
- Actively participated in 50+ team meetings, discussing progress, challenges, and potential solutions with stakeholders. Collaborated with cross-functional teams to deliver **5+ enterprise software products** on time, ensuring 100% compliance with project deadlines.

#### • Defence Research Development Organisation (DRDO)

India

*Financial Systems Engineer (Contract)*

May 2019 - June 2020

- Designed a bulk account opening system for armed forces personnel using **Java**, integrating with SBI's Core Banking System (CBS) to process **5,000+ monthly applications** with 99.9% accuracy.
- Developed portal for defense personnel to view: Real-time salary credits, Pension statements, Loan eligibility. Integrated with legacy **COBOL/DB2** systems via Java middleware.
- Built reconciliation tools comparing DRDO's payroll system with SBI/PNB transaction records, resolving **2.8M in discrepancies** quarterly

#### • Institution Of Electronics and Telecommunication Engineers (IETE)

India

*Payments System Associate (Full-time)*

May 2018 - June 2019

- Built Java modules for transaction processing in a CBS environment, implementing interest calculation and payment reversal workflows that handled **5,000+ daily transactions** with 99.98% accuracy
- Designed responsive payment screens using **HTML5, CSS3, and JavaScript** that reduced teller processing time by **30%** while maintaining compatibility with IE11 legacy requirements
- Developed adapters to connect Java payment services with existing **COBOL-based accounting systems**, implementing custom parsers for VSAM file formats to ensure end-of-day reconciliation

## PROJECTS

- **OffcampusHousing Web Platform:** Developed a scalable accommodation listing platform with React.js (frontend) and Spring Boot (backend). Implemented secure custom JWT authentication using HTTP-only cookies. Integrated Cloudinary for media storage (images/videos) and Stripe for processing seller payments. Redis was used for caching login sessions and storing buyers' saved/favorite properties. Implemented fast, full-text search with Elasticsearch. Leveraged PostgreSQL for core relational data. Enabled sellers to list apartments for free (images) or pay \$10 to upload videos; buyers could explore, search, and save listings in real-time.
- **Payment Gateway Integration System:** Designed and implemented a secure payment gateway integration for a financial application, enabling seamless processing daily transactions. Developed RESTful APIs using Java and Spring Boot to handle payment requests, validate transactions, and communicate with third-party payment processors.
- **Personalized AI Chatbots:** I built an AI chatbot using Jsoup and Selenium, integrated with Qdrant as the vector database and LLaMA 2 as the LLM model. Jsoup was used to scrape data from websites, while Selenium automated interactions with dynamic web pages for content extraction. Qdrant's vector database efficiently handled embeddings, enabling the chatbot to process natural language queries and provide contextually aware, intelligent responses powered by **LLaMA 2**. This setup automated customer support, enhanced user engagement, and delivered accurate, real-time answers tailored to specific queries
- **Asynchronous Job Scheduler File System:** Designed and built a Stackable Linux File System as a Linux module to enable asynchronous bulk operations. Improved performance by 25%.
- **DNS Resolver using DNSSEC:** Implemented a secure local DNS resolver using Python and DNSSEC protocol.
- **Carpooling (Web Development):** Implemented Clark Ride-Share app using Python (Django) and SQLite3, enabling students to share rides.
- **Classification and Clustering Models:** Built customer segmentation clustering models using PySpark and MLlib for targeted marketing and personalized recommendations.

## CERTIFICATIONS AND AWARDS

- **NPTEL Accredited Certification:** Artificial Intelligence and IoT (Internet of Things)
- **TCS EngiNx Engineering Project Innovation Content:** Participated in the innovation contest.