

Umar Mohammad

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Experience

Software Engineer

Jul 2021 – May 2023

Basketo Finance

Remote

- Developed a cryptocurrency marketplace specializing in crypto baskets for managing multiple cryptocurrencies simultaneously.
- Engineered user-centric, React-based interfaces for custom dashboard creation, utilizing advanced UI/UX principles to boost user engagement by 30%, thereby significantly enhancing user experience and platform usability.
- Integrated **CoinGecko API** with **Axios** for real-time pricing of 50+ cryptocurrencies, enhancing market analysis accuracy and trust.
- Optimized MongoDB performance by 40% via distributed **Redis caching** and clustering for enhanced query response and efficiency.
- Integrated MetaMask into the wallet system, enhancing transaction efficiency by 20% and improving functionality with secure, blockchain-based operations, thereby strengthening user trust in transaction security.
- Demonstrated technical leadership by overseeing code reviews and managing continuous integration and deployment (CI/CD) processes for a complex 10,000+ line codebase, reinforcing best practices and ensuring high-quality software delivery.

Software Engineer Intern

Jan 2021 – Jun 2021

Capgemini

Remote

- Contributed to development of Healthcare Scheduling Application, achieving seamless integration for 3000+ patients with 50+ healthcare providers, utilizing Agile methodologies to streamline appointment scheduling and enhance patient service engagement.
- Leveraged **Spring Data JPA** on **AWS EC2** for scalable data management, ensuring efficient data storage and high-speed retrieval.
- Engineered an autocomplete feature with data synchronization between **MySQL** and **Elasticsearch**, enhancing searching by 70%.
- Implemented Debezium with MySQL's binary log to capture row-level changes, enabling real-time streaming to a **Kafka** topics.
- Transitioned the application architecture from monolithic to microservices, utilizing **Spring Boot**, which streamlined deployment processes and improved system scalability, resulting in a 40% increase in operational efficiency.
- Developed **Spring Boot** based **REST APIs** for data publishing, and implemented Kafka consumers for efficient data retrieval.

Projects

Secure Chat System with Elliptic Curve Cryptography and ElGamal Encryption

Oct 2023 – Dec 2023

- Developed an encrypted chat application, utilizing **Java** with **ElGamal** encryption, achieving military-grade communication security.
- Designed a Java Swing GUI for enhanced **multi-threaded** interactions, boosting user experience and system responsiveness by 50%.
- Instituted secure key exchange protocols with Elliptic Curve Cryptography, ensuring real-time, tamper-free cryptographic operations.
- Implemented a concurrent server-client model using **Java sockets**, enhancing the system's scalability for handling user concurrency.
- Reinforced network resilience through **socket programming**, ensuring seamless performance under different network conditions.
- Optimized serialization processes with Java I/O Streams, minimizing overhead and improving message integrity and delivery speed.

ElectionGuard - Blockchain-Powered Voting System

Jun 2020 – Dec 2020

- Developed a blockchain-based voting system using Ethereum smart contracts, capable of handling 1000+ registrations and 600+ concurrent votes, ensuring vote integrity and security.
- Enhanced voter registration with Twilio SMS API for SMS-based voter identity validation, reducing fraudulent registrations by 95%.
- Automated vote tallying via smart contracts, achieving transparent and immutable election results with zero discrepancies.
- Integrated an **AutoEncoder** data analysis system to boost electoral security by 80% by identifying and preventing voting anomalies.
- Administered system deployment on AWS, employing Linux system monitoring tools for optimal performance and 99.9% uptime.

Technical Skills

Languages & Web Technologies: Java, JavaScript, Python, C++, React, Next.js, Node.js, jQuery, PHP, XML, HTML

Back-end & Testing: Spring Boot, Spring MVC, Spring Security, Spring Data JPA, REST APIs, Selenium, JUnit, Mockito

Cloud, OS & DevOps: AWS, Amazon S3, RDS, EC2, Linux, Jenkins, Git, Docker, Lambda

Databases & Tools: MySQL, PostgreSQL, SQL Server, Kubernetes, Apache Kafka, Elastic Search

Software Engineering Competencies: Frontend/Backend applications, Web Development, Full Stack, Microservices, Algorithms, Distributed, Integration, Automation, Software development, Unit /Integration /Regression Testing, Object Oriented Programming, Logging, Problem-solving, Authentication, Authorization, Application Development, Server, Networking, Technical documentation, Code review, Logging, Adaptability, Problem-solving, Collaboration, Communication, Adaptability, Leadership, Agile methodologies.

Hackathon Achievements

- Won Hackathons for 'Best Interoperability Solution' with a \$25,000 NFT and 'Most Creative Use Case' for Square's Invoices API .

Education

Georgia State University

Aug 2023 – Dec 2024 (Expected)

Master of Science in Computer Science; GPA: 3.77/4.00

Atlanta, GA

Vel Tech University

Jul 2017 – May 2021

Bachelor of Science in Computer Science and Engineering; CGPA: 3.60/4.00

India