MD IRFAN KHAN

Ronkonkoma, New York 11779 • +1-641-233-2091 • khan.mdirfan.engineer@gmail.com
https://www.linkedin.com/in/irfan-mkhan/

SOFTWARE ENGINEER

Senior Software Engineer with 6+ years of experience building high-performance Java, and Spring Boot microservices for fintech (95M+ users) and telecom platforms (59M+ subscribers). Proven expertise in optimizing system performance and leading full-cycle development of enterprise-grade applications leveraging a wide array of technologies including Kafka, React JS, Spring Cloud, Spring Security, MSSQL, Oracle, Docker, Python, C#, and ASP.NET.

• Object Oriented Design (OOD) • Database Development • Test Driven Development (TDD) • System Architecture
• Problem Solving • Microservices • Concurrency and Multithreading • Data-Intensive Applications
• API Design • Performance Optimization

Languages: Java, C#, Python, TypeScript, SQL
Web: HTML, CSS, Bootstrap, Tailwind CSS, JavaScript, ReactJS
Web Services: REST API
Web/App Servers: Apache Tomcat, Apache HTTP Server, Microsoft IIS
Frameworks: Spring Boot, Spring Cloud, Hibernate, JPA, JDBC, Selenium, ASP .NET
Databases: MS SQL, Oracle, PostgreSQL, Redis
Design Patterns: Singleton, Strategy, Decorator, Observer, Factory Method, Command, Adapter, Proxy, Template.
SDLC: Agile (Scrum), TDD, JIRA, GitLab
Tools: Maven, Docker, Apache Kafka, Prometheus, Grafana, JUnit, UiPath, Selenium WebDriver
Platforms: Windows, Linux
Big Data: Hadoop, Kafka

PROFESSIONAL EXPERIENCE

CAREER NOTE: *Completed on-campus studies and currently taking distance education courses to complete a* ***Master's Degree in Computer Science*** *(Available for full-time, W-2 employment).*

Senior Software Engineer • 01/2024 – 04/2024
NAGAD (Leading Bangladesh Fintech Platform – 95M+ Users and $153M+ Daily Transactions.)**, Dhaka, Bangladesh**

- Engineered priority-aware partitioning by mapping high-priority messages to dedicated Kafka partitions through custom Spring Kafka ProducerFactories, enabling parallel processing through isolated consumer groups and reducing high-priority event latency.
- Architected Redis caching layer using cache-aside pattern (Redisson client), reducing Postgres query volume by 40% and improving API response times from 920ms to 78ms approximately.
- Spearheaded collaborative Postgres database schema design, reducing query latency through index optimization and normalized table structures, which improved data retrieval efficiency, and system performance.
- Implemented rigorous unit testing methodologies utilizing JUnit and Mockito to ensure robust code quality and reliability in production environments.
- Implemented system-wide monitoring and logging with Prometheus and Grafana, cutting downtime and ensuring system reliability.

Technologies Used: *Java, Kafka, Spring boot, Hibernate, Spring Cloud, PostgreSQL.*

Software Engineer • 08/2021 – 12/2023
RED.DIGITAL LIMITED (Digital Innovation Hub of Robi Axiata – 59.5M+ Active Subscribers)**, Dhaka, Bangladesh**

- Modernized Smart Axiata's CRM system using Java, Spring Boot, JSP, jQuery, and Postgres, reducing module execution time and improving user retention through streamlined workflows and enhanced UI/UX.
- Led end-to-end design of customer-facing portals with React JS, TypeScript, Java, and Spring Boot, integrating real-time analytics dashboards to improve product visibility and user engagement.
- Architected and maintained scalable RESTful services with Java, Spring Boot, Oracle, and MS SQL, reducing API latency and supporting an increase in daily transaction volume.

- Optimized a high-availability mobile financial services backend using Java, Spring Boot, and Postgres, implementing distributed caching and load balancing to achieve millisecond-level transaction processing, while ensuring reliability through rigorous JUnit testing and optimized thread management.
- Automated server health monitoring and log analysis in CentOS using Bash, Python scripts reducing system downtime through proactive alerts and rapid issue resolution.
- Built responsive web applications using React, Tailwind CSS, and Spring Boot, reducing frontend load times and ensuring seamless cross-device performance for enhanced user engagement.
- Ensured network reliability for 59.5M+ subscribers by resolving stability issues in Diameter/Sigtran signaling protocol stacks, maintaining 99.9% uptime for critical telecom operations.
- Implemented comprehensive test cases and conducted rigorous code reviews using JUnit, elevating code quality and preemptively resolving defects to reduce post-deployment issues.
- Enhanced performance of enterprise databases MSSQL, Oracle by redesigning complex packages, stored procedures and strategically implementing indexing on high-usage tables, achieving a reduction in query response times and accelerating critical report generation.

Technologies Used: *Java, Spring Boot, Spring cloud, HTML5, Tailwind CSS, React JS*

Software Engineer • 05/2018 – 07/2021
BRAC IT (Tech Arm of BRAC [World's Largest NGO – 100M+ Beneficiaries in 11 Countries])**, Dhaka, Bangladesh.**

- Mitigated XSS, CSRF, and SSRF vulnerabilities in Java and C# applications using Spring Security and ASP.NET, reducing security risks and ensuring compliance with PCI DSS standards for BRAC Bank's financial systems.
- Migrated a monolithic application to a scalable microservices architecture using Spring Cloud, improving system performance significantly and enabling seamless horizontal scalability.
- Developed Python and Java automation applications for document processing and workflow management, reducing manual effort by 75%, increasing team productivity by 4.5x, and streamlining repetitive tasks.
- Optimized data processing speed and reliability by over 80% by engineering a server-side solution for a search, summary, and reporting system using Java, JSP for viewing, and Python for efficient PDF data extraction.
- Implemented advanced reporting and risk assessment features for the company's system using Java, and MSSQL, achieving a 40% improvement in report accuracy, efficiency, and timeliness.
- Maintained code quality and identified potential issues proactively by writing comprehensive test cases on Selenium and conducting code reviews.
- Engineered an optical character recognition (OCR) solution for document reading using Tesseract OCR, enhancing data extraction accuracy and reducing manual effort.
- Delivered database optimizations and troubleshooting by writing efficient stored procedures, functions and queries in MSSQL, Oracle reducing query execution time by 30%.

Technologies Used: *Java, Python, C#, UiPath, Selenium, MSSQL, Oracle*

ACADEMIC PROJECTS

Maharishi International University (2024)

- **Banking System:** Developed a Java-based banking application for personal and corporate accounts, utilizing Swing for the user interface and PostgreSQL for backend data storage.

- **MEAN-music:** Created a MEAN stack application allowing users to add and manage music albums, employing MongoDB, Express.js, Angular, and Node.js.

EDUCATION

Master of Science in Computer Science
(In progress via distance education; expected completion 12/2026)
Maharishi International University, Fairfield, Iowa

Key Courses: Web Programming, Modern Web Applications, Advanced Software Development, Web Application Architecture, Algorithms

Bachelor of Science in Software Engineering
American International University, Dhaka, Bangladesh (11/2018)