Sarraf Rahman

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TECHNICAL SKILLS

Languages: Javascript, Typescript, Java, Python, C, Golang, Kotlin, SQL, HTML, CSS
Technologies: Node.js, Express.js, Spring, React.js, Next.js, Docker, MongoDB, PostgreSQL, AWS(S3, Lambda, H2)
Developer Tools: Git, Github, Jira, Visual Studio, IntelliJ, Postman
Paradigms/Processes: OOP, Agile development, Behaviour-driven development, CI/CD

EDUCATION

McMaster University Hamilton, ON
Honours Computer Science and Economics (Bachelor of Arts) *2020 - 2025 Expected*
- Intro to Software Development, Data Structures and Algorithms, Concurrent Systems
- Google Developer Student Club, DeltaHacks Hackathon

PROJECTS

BlockWatch | *React.js, Node.js, Express.js, MongoDB, Redux, JWT, bcrypt*
- Engineered a secure full-stack web application inspired by CoinMarketCap, facilitating over 50 cryptocurrency investments and contributing to a profit yield of over $2500.
- Developed RESTful APIs to manage cryptocurrency watchlists, using Node.js to enhance performance.
- Improved user data security by developing an SSO server using JWT for user authentication and authorization.
- Increased data retrieval efficiency by 40% by implementing efficient Mongoose schemas in MongoDB.
- Streamlined state updates and prop drilling by implementing Redux, resulting in more maintainable and readable code, thereby reducing bug incidence by 25%.

Chat Application | *Kotlin, Spring Boot, RSocket, Spring WebFlux, Kotlin Coroutines, R2DBC*
- Refactored and developed app from a basic request-response model to a non-blocking, asynchronous architecture with Spring WebFlux, Kotlin Coroutines and R2DBC, improving concurrent I/O operation handling by 300%.
- Developed a persistence layer using Spring Data and H2, achieving 100% data consistency.
- Optimized network traffic by 20%, through RSocket's multiplexing capabilities, enabling the simultaneous transfer of multiple logical streams over a single physical connection.

Scalable Data Layer | *Spring Boot, JDBC, PostgreSQL, Docker, HikariCP, Flyway*
- Engineered scalable persistence layer infrastructure capable of managing high volumes of concurrent load.
- Decreased response times by 30% by enhancing query execution against a PostgreSQL database using batch processing and connection pooling in JDBC.
- Increased concurrent user capacity by 200% through efficient connection management with HikariCP.
- Reduced network latency by 20%, by optimizing database interactions using DAOs and caching mechanisms.

URL Shortener | *Golang, Redis, Gin*
- Designed a service in Go, providing a simple and reliable utility to convert URLs into shortened, shareable versions.
- Optimized data retrieval, as measured by the speed of URL redirection, by using Redis as a store mechanism.

EXPERIENCE

Programming Instructor August 2021 - February 2022
Prograsp *Toronto, ON*
- Assisted students in completing an average of 3 software projects, resulting in a 10% increase in course grades.
- Expertly analyzed and debugged code in various programming languages, including JavaScript, Java, C, and Python, resulting in an improved codebase, efficiency and maintainability.
- Implemented agile development methodologies for students and provided clear and actionable suggestions for code optimization, resulting in a more streamlined and cohesive development process.

Production Coordinator September 2018 - March 2020
Junior Achievement Canada *Toronto, ON*
- Managed a 12-member cross-functional team and coordinated with four mentors and a branch partner.
- Overhauled the inefficient and unsafe production system, resulting in improved production rates of up to 200%.
- Consistently exceeded sales goals by 20% month to month due to collaborative efforts and organizational impact.