

# Charanvir Singh

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## Skills

- JavaScript | TypeScript | Python | Node.js | SQL (Postgres, MySQL) | NoSQL (MongoDB) | RESTful APIs | GraphQL | Bash
- Docker | Kubernetes | AWS | Azure | Git | Jenkins | Nginx | Redis | Elasticsearch | RabbitMQ | Quartz | Performance Optimization
- React | Bootstrap | Tailwind CSS | CSS | HTML | API Design | Distributed Systems | Cloud Integration | CI/CD Pipelines | Scripting
- Test-Driven Development (Jest | Unit Testing) | Agile Methodologies | Microservice Architecture | Algorithms | Data Structures

## Professional Experience

### Software Developer

#### Case IQ

Ottawa, Canada   **08/2023 – present**

- Designed and implemented customer-facing features** in collaboration with cross-functional teams, including product managers, UX designers, and backend engineers. Delivered intuitive and high-performance interfaces that enhanced user experience, leading to improved customer engagement and satisfaction.
- Identified and addressed performance bottlenecks** by analyzing system metrics, profiling application performance, and implementing optimizations. **Reduced system latency by 50%** through query optimization, caching strategies, and improved request handling, leading to a more responsive and reliable platform.
- Developed and optimized scripts** to update over **100,000 database records** efficiently, leveraging batch processing, indexing, and transaction management. **Reduced processing time by 50%** while ensuring data integrity and consistency across distributed systems.
- Diagnosed and resolved critical system outages** by conducting root cause analysis, implementing proactive monitoring, and deploying automated alerting systems. Reduced mean time to recovery (MTTR) to under 1 hour, ensuring system availability and maintaining SLA compliance.
- Refactored a high-traffic API** for a client system to improve data retrieval efficiency. Optimized query structures and response handling for an API used **100s of times daily, processing 1000s of sensitive records per request**. The improvements reduced load times, minimized redundant data transfers, and enhanced system security and scalability.
- Optimized database configurations** by identifying inefficient indexing strategies, adjusting connection pooling settings, and fine-tuning query execution plans. Adapted database performance to handle increased usage, reducing query execution times and improving overall application responsiveness under high traffic loads.

### Web Development Instructor

#### 2U

Toronto, Canada   **10/2022 – 08/2023**

- Mentored 60+ students** across multiple cohorts, providing individualized guidance and structured learning plans. Achieved a **95% pass rate**, significantly improving student comprehension and career readiness.
- Reviewed and provided in-depth feedback on 100+ projects**, emphasizing **clean code practices, performance optimization, and scalable architectures**. Helped students **adopt industry best practices**, improving code quality and employability.
- Designed and led hands-on workshops on JavaScript, React, and Test-Driven Development (TDD)**, incorporating real-world case studies and interactive exercises. Increased student proficiency and **boosted project completion rates by 80%**.
- Resolved complex technical queries and debugging challenges**, enabling students to tackle real-world coding problems with confidence. Improved assignment turnaround times and **reduced late submissions by 50%**.
- Facilitated career development** by guiding students through **technical interviews, whiteboarding exercises, and coding assessments**, enhancing their job market readiness and placement success.

### Software Developer

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Brampton, Ontario   **03/2020 – 10/2022**

- Designed, developed, and maintained a scalable company website** using **React, TypeScript, and modern frontend best practices**. Improved site architecture and component reusability, enhancing performance and maintainability while ensuring a seamless user experience.
- Led mobile responsiveness enhancements**, implementing **flexible layouts, optimized media queries, and adaptive UI components**. This resulted in a **75% increase in mobile engagement**, a lower bounce rate, and a more seamless cross-device experience.
- Optimized website performance, leveraging code-splitting, lazy loading, caching strategies, and asset optimization. Achieved a 25% reduction in load times, leading to a 50% improvement in customer retention and satisfaction.
- Diagnosed and resolved critical system issues**, identifying root causes and deploying robust fixes to ensure high reliability. Maintained **99% uptime**, implemented proactive monitoring, and reduced average issue resolution time, improving platform stability.
- Refactored key application components**, streamlining state management with **React Context & Redux**, improving maintainability, and reducing re-renders, leading to **smoother performance and enhanced scalability**.

## Education

Bachelor of Science (BSc) in Life Sciences,  
- Minor in Computer Science

**McMaster University**

Hamilton, Ontario   **09/2015 – 06/2020**

## Certificates

Full-Stack Web Development Certificate — UofT SCS Coding Boot Camp (2022)