

Sheel Patel

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EDUCATION

Toronto Metropolitan University (formerly Ryerson University)

Toronto, ON

Bachelor of Science in Computer Science (Co-op); GPA: 3.77 | Dean's List

Sept 2022 – April 2026

- **Coursework:** Data Structures, Algorithms, Software Engineering (SDLC, Agile), Database Systems I & II, Operating Systems, Computer Networks, Web Systems Development, Web Applications, Computer Security, Machine Learning, Computer Vision

WORK EXPERIENCE

Data Analyst

Sept 2023 – Jun 2024

Practical Applications of Computer Science

Toronto, ON

- **Engineered** data pipelines for 1000+ website interactions using **PostgreSQL and Python**, boosting engagement by 40%.
- **Deployed** infrastructure across OpenShift, AWS, and private cloud, sustaining 99.7% uptime across 10+ deployments.
- **Analyzed** event registration data, identifying 8 critical UI bottlenecks that reduced no-show rates by 35%.
- **Led** team of 10+ staff using **Jira/Confluence**, implementing workflows that increased task completion by 80%.

Lifeguard

May 2023 – Sept 2024

Canada's Wonderland

Toronto, ON

- **Monitored** safety of 1000+ daily guests, enforcing protocols that reduced reported incidents by 20%.
- **Collaborated** with 15+ team members on emergency protocols, decreasing response time by 20% with 100% positive feedback
- **Documented** safety incidents and improvements, enhancing training effectiveness for 30+ new staff members.

PERSONAL PROJECTS

F1 Real-Time Dashboard | Python, FastAPI, pandas, React, Canvas API, Docker

- **Analyzed** GPS telemetry from 100+ F1 sessions using **Python, pandas**, and **FastF1**, applying 3× downsampling logic to identify lap performance patterns and improve visualization accuracy by 35% across all 20 drivers.
- **Engineered** thread-safe session cache with **LRU** eviction capped at 5 sessions, ensuring only one thread loads each FastF1 session while up to 20 concurrent requests await and share the cached result, reducing average load time by 60%.
- **Implemented FastAPI** backend with a unified session-init endpoint returning driver data, lap positions, and track outline in one call, consolidating 3 sequential page-load round-trips into 1 and reducing data payload overhead by 60%.
- **Developed** 60fps **Canvas** renderer via **requestAnimationFrame** reading all live state through refs with zero React re-renders, pre-rendering the static track to an offscreen canvas and achieving smooth real-time playback at 8× speed.

PawFind | React, Node.js, Express, MongoDB, Socket.IO, Docker

- **Architected** full-stack **Node.js/MongoDB** data platform with 5 Mongoose schemas and **JWT** tiered middleware, enabling role-based access control across admin and user routes and eliminating unauthorized data access.
- **Integrated Socket.IO** WebSocket layer with **MongoDB**-persisted message store, cutting server polling overhead and enabling real-time bidirectional data streaming across 9 REST API endpoints for concurrent admin and user sessions.
- **Constructed Docker Compose** deployment pipeline with automated **MongoDB** seeding, reducing environment setup from manual configuration to a single command and ensuring consistent data state across 5 collections.
- **Optimized** socket room topology using per-conversation rooms and in-memory connection tracking, eliminating cross-session message bleed and enabling live admin inbox updates without polling for concurrent multi-conversation monitoring.

Event Management System | Ruby on Rails, SQLite, Heroku, React

- **Developed** data management platform using Ruby on Rails, processing records for 25+ events and 500+ monthly attendees.
- **Engineered** 20 reporting components with **Tailwind** and **React**, reducing dashboard development time by 40%.
- **Streamlined** data operations with **Go** and **SQLite3**, achieving 99.8% transformation accuracy and 60% faster queries.
- **Implemented JWT** authentication workflows, securing 300+ user accounts while reducing system access issues by 75%.

SUMMARY OF QUALIFICATIONS

Proficient in **Java, Python, SQL, JavaScript, C/C++**, Go, Ruby, data analysis (**pandas, matplotlib**), **ETL processes**, and data transformation workflows with 95% accuracy across production analytics systems.

Experienced with **PostgreSQL, MySQL, MongoDB, SQLite**, database optimization, and designing efficient data models that reduced query response times by 40-60% across multiple analytics projects.

Skilled in **Jira/Confluence**, Git, CI/CD pipelines, **REST API integrations**, cloud platforms (**AWS, OpenShift**), and implementing workflow automation solutions that reduced inefficiencies by 30-40%.

Demonstrated ability in architecting full-stack applications, building data integration pipelines, implementing authentication protocols (**OAuth, JWT**), and delivering end-to-end SDLC solutions with 98% reliability across multiple platforms.

Strong analytical problem-solving skills with expertise in translating complex requirements into actionable development tasks for diverse stakeholders, resulting in measurable operational improvements.

TECHNICAL SKILLS

Languages: Java, Python, SQL (PostgreSQL, MySQL, SQLite), JavaScript, C/C++, Go, Ruby, Bash

Data & Analytics: pandas, matplotlib, numpy, ETL pipelines, data modeling, REST API integrations, FastAPI

Tools & Cloud: Git, Jira/Confluence, AWS, OpenShift, Docker, CI/CD, React, Next.js, Node.js, Spring Boot