IMMANUEL GNANASEELAN

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EDUCATION

Toronto Metropolitan University   Toronto, ON
Bachelor of Engineering (Software Engineering)   *Sept. 2022 – Present*
  – Relevant Coursework: Data Structures & Algorithms, Digital Systems, Software Systems, Database Systems, Communication for Engineering

TECHNICAL SKILLS

Languages: Java, Python, C#, HTML, JavaScript, SQL, VHDL
Tools/Technologies: Jira, SQL Server, AWS S3, .NET, Windows Forms, FPGA, Version Control (Git), REST API
Professional Skills: Data validation, documentation accuracy, customer support, testing
Certifications: WHMIS

EXPERIENCE

GenesisCircle   May 2025 – Sept. 2025
Software Quality Assurance Engineer   *Fort Erie, ON*
  * Performed functional and usability testing on enterprise fleet management software across multiple device types.
  * Identified, documented, and categorized software bugs, supplying actionable reports to developers.
  * Used Jira for bug tracking, workflow management, and ensuring milestone completion.
  * Collaborated with QA and dev teams to validate updates, maintain app stability, and improve UI/UX performance.
  * Resolved customer tickets efficiently and supported users in understanding new features and system updates.

PROJECTS

Clash Royale Deck Analytics & Strategy Engine (In Progress) | *C#, ASP.NET Core, REST APIs, JavaScript*
  * Designed and implemented a backend analytics engine that evaluates Clash Royale decks using card metadata, elixir cost, role distribution, and coverage heuristics.
  * Built RESTful API endpoints in ASP.NET Core to compute synergy scores, average elixir, automatic deck classification (Beatdown, Cycle, Control), and matchup strengths/weaknesses.
  * Integrated real-time data visualization in the frontend using JavaScript and Chart.js to display synergy breakdowns through dynamic bar charts.
  * Implemented automated card role assignment and attack-type inference to eliminate manual deck configuration.
  * Currently extending the engine with advanced matchup modeling, role balance scoring, and expanded strategic metrics.

Clothing Retail Store DBMS | *Java, Oracle SQL, Swing, JDBC*
  * Designed and implemented a BCNF-normalized Oracle database (8+ tables) including constraints, sample data, and advanced SQL queries.
  * Built a Java Swing GUI connected through JDBC to manage schema and data operations such as table creation, deletion, and CRUD actions.
  * Implemented analytical reporting features using joins, aggregation functions, and window functions.
  * Enabled table browsing, record updates, and transactional integrity checks through modular backend logic.

CPU & ALU Design | *VHDL, FPGA, Digital Logic*
  * Designed a simple CPU architecture featuring an ALU, FSM-based control unit, decoders, and 8-bit registers.
  * Simulated VHDL components to verify correct arithmetic and logical operations.
  * Tested CPU functionality on FPGA hardware with 7-segment output visualization.