Nathaniel Recto

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SUMMARY OF QUALIFICATIONS

- Currently enrolled as a third-year Computer Engineering student at Toronto Metropolitan University.
- Strong foundation in **analog circuit design** and simulation, evidenced by creating multistage amplifiers using **NI Multisim**, with precise component selection using manual calculations and software optimization.
- Experienced in **VHDL** and **FPGA** design, applied in developing a general-purpose processor with **finite state machines** and a 7-segment display, enhancing technical problem-solving skills for digital systems.
- Proficient in **C++** and **Arduino IDE**, demonstrated through the LED Temp-Humidity Indicator project, combining sensor data with real-time visual feedback on an LCD Module.

TECHNICAL SKILLS

Languages: *HTML/CSS, JavaScript, C/C++, Java, Matlab, Assembly, Python*

Productivity Tools: *MS Office (Excel, Word, PowerPoint), Google Workspace (Docs, Sheets, Slides)*

Developer Tools: *VS Code, Visual Studio, JavaFX, Git, Github*

Hardware: *VHDL, Quartus II, Arduino Uno, NI Multisim*

Platforms: *Windows, Linux (Unix)*

EDUCATION

Bachelor of Engineering (B.Eng.): *Computer Engineering* — Toronto, ON

Toronto Metropolitan University *(formerly Ryerson)* — *Sept 2022 - May 2026*

Relevant Coursework: *Digital Systems, Engineering Algorithms and Data Structures, Software Systems, Electronic Circuits, Electric Networks, Electric Circuit Analysis, Object Oriented Engineering Analysis and Design*

WORK EXPERIENCE

Operations Support - *Enercare, Markham, ON* — *May 2024 - Aug 2024*

- Coordinated with cross-functional teams to resolve HVAC contract deficiencies, streamlining communication and improving operational efficiency.
- Managed contractor payments and invoicing, reducing processing time by **20%** and ensuring timely compensation through optimized workflows.
- Performed administrative duties while serving as a primary contact, increasing team productivity by **15%** through improved communication and task management.

ACADEMIC PROJECTS

LED Temp-Humidity Indicator - *C++, Arduino IDE* — ***Github Repository***

- Engineered an **Arduino**-based system to monitor temperature and humidity using a DHT11 sensor, displaying real-time data on a 16x2 LCD screen while using LEDs to signal specific temperature ranges.
- Integrated hardware components including the UNO R3 Controller Board, LCD display, and three LED lights to create a functional prototype.

General-Purpose Processor - *VHDL, Quartus II* — ***Github Repository***

- Constructed a simple processor using **Quartus II** software and **VHDL**, incorporating components such as a 4x16 decoder and finite state machine, enhancing technical problem-solving skills.
- Designed and validated processor functions for accuracy in arithmetic and bitwise operations on two 8-bit inputs, displaying results on 7-segment displays.

Multistage Amplifier Design - *NI Multisim* — ***Github Repository***

- Developed and simulated a single-supply, multistage, inverting transistor amplifier using **NI Multisim**, applying detailed simulations and manual calculations for precise component selection.
- Refined circuit performance through thorough analysis, optimizing resistance and capacitance values.

Bank Account Application - *Java, JavaFX* — ***Github Repository***

- Built an interactive GUI using **JavaFX**, enabling seamless navigation through core banking functionalities like user authentication, transaction management, and real-time balance updates.
- Implemented **state design patterns** and UML diagrams to manage customer membership levels, enhancing scalability and maintainability.