

Theeshiikan (Theesik) A Shanmuganathan

3rd Year Computer Engineering Student

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Professional Skills

- **Technical Skills:** VHDL, Python, C/C++, NumPy, HTML/CSS, UML Diagrams, Java, Simulink, JavaScript, Assembly
- **Soft Skills:** Self-Motivated, Problem-solving, Team Collaboration, Strong Communication, Leadership and Adaptability
- **Tools & Technologies:** Quartus, MATLAB, PyCharm, Git, Oscilloscopes, Logic Analyzers, Unix/Linux, and MOSFETs
- **Concepts:** Digital Logic Design, Circuit Design/Analysis, Verification Methodologies, FPGA Design, Signal Processing

Education

B.Eng. in Computer Engineering

Expected 2027

Toronto Metropolitan University, Toronto, ON - Dean's List

- **Relevant Coursework:** Algorithms and Data Structures (C), Digital Systems (FPGA/VHDL), Object-Oriented Programming (Java), Electronic Circuits (Analog Design), Control Systems (Signal Theory), Microprocessors (Assembly)

Professional Experience

Lead Code Instructor, Code Ninjas

Aurora, Canada - 04/2023 to Present

- Helped develop over **500+** coding projects in **JavaScript, Python, Scratch and Makecode** guiding **100+** students
- Taught engineering concepts and coding languages such as **JavaScript, C and Java** with a focus on **Robotics**
- Collaborated with large teams of **7 +** to plan and host **3+** Hackathons, open houses, and events to engage the community.

MetEng Competition

Toronto Metropolitan University - 2024

- **Collaborated in teams of 4** to create an **efficient and working software application** within a given time constraint
- Analyzed and processed **1000+ job postings** to tailor an enjoyable user experience that can provide a helpful response
- Built and tested a **Python** based job-matching platform using data analytics for interested students looking for work.

Projects

MoneyFlow Tracker — JavaFX, Java and CSS

- Developed an interactive **GUI** for a banking system with multiple screens and accounts for added functionality.
- Facilitated **50+ customer accounts** with transaction history, balance updates, and withdrawal/deposit functions.
- Used multiple **UML diagrams** to carefully plan and document the project, ensuring clear structure and organization
- **Personal Takeaway:** Gained strong problem-solving skills and improved adaptability by quickly learning new topics.

General-Purpose Processor Design — Quartus, FPGA and VHDL

- Designed a general-purpose processor on a **FPGA**, created a processor using **latches** and **decoders** for simple tasks.
- Achieved stable functionality with **20+ successfully executed test cases** for fairly simple arithmetic and logic tasks.
- **Personal Takeaway:** Enhanced technical growth and developed collaboration skills by working closely with team members.

Multistage Amplifier Design — Multisim

- Designed a **2-stage amplifier** using **BJTs** to achieve precise gain levels, ensuring the required specifications were met.
- Simulated the amplifier's performance in **Multisim**, iterating over **10+** test scenarios to refine and optimize the circuit.
- **Personal Takeaway:** Developed a focus on precision and optimization by analyzing results and making real-time changes.

Micro-bot Path Tracing — Assembly

- Developed software to control a **Microprocessor** on a Micro-bot, enabling the bot to trace and react to predefined paths.
- Improved accuracy and responsiveness of the system through algorithm optimizations, testing the system over **5+** times.
- **Personal Takeaway:** Strengthened low-level programming skills by working directly with hardware and assembly code.