# Kirusanth Palakanthan

647-763-9214 | kirusanthpalakanthan5@gmail.com | linkedin.com/in/kirusanth-palakanthan | github.com/Kirusanth290

## Education

**Toronto Metropolitan University** — Toronto, ON
*Bachelor of Engineering, Computer Engineering* — *Expected Graduation – 2028*

## Technical Skills

**Programming Languages:**: C, C++, Python, Assembly (HCS12), Java, JavaScript, SQL
**Embedded & Systems:**: Microcontrollers (HCS12), real-time control, state machines, hardware debugging, sensor interfacing, timing analysis
**Firmware Tools:**: Git, Linux environment, CodeWarrior
**Databases:**: MySQL, OracleSQL
**Certifications**: Coursera Google Data Analytics Certificate

## Experience

**Research & Data Intern** — June 2025 – Sept 2025
*Tony Osborn Architecture + Design Inc. (via Venture for Canada)* — *Toronto, ON*

- Developed a digital compliance database in Python and SQL, automating verification workflows to ensure data integrity and compliance with national standards
- Created automation scripts and pipeline logic to improve system efficiency by 40%, aligning with AMD's focus on performance-driven software engineering
- Authored technical documentation and validation reports supporting process reproducibility and accuracy across system integrations

**Häagen-Dazs Ice Cream Cart Attendant** — Jul 2025 – Aug 2025
*Vital Link Ice Cream and Event Marketing Inc.* — *Toronto, ON*

- Supported hardware-based operational systems at high-volume events, ensuring stability, performance consistency, and fast troubleshooting under time-sensitive conditions
- Designed SOPs and system diagnostic documentation improving workflow efficiency and error resolution by 30 %
- Collaborated in diverse, fast-paced environments, demonstrating teamwork, adaptability, and initiative

## Projects

**Robot Maze Navigation** | *Microcontrollers, Assembly Language, FSM* — Oct 2025 – Dec 2025
*Academic Project*

- Programmed the HCS12 microcontroller using C and Assembly to implement finite-state-machine logic, managing sensor input, timing control, and actuator response
- Conducted system-level testing on motors, sensors, and LCD display—verifying control logic, path accuracy, and stability under real-time conditions
- Demonstrated practical understanding of digital systems, logic design, and embedded verification principles relevant to CPU/APU development

**Uber Ride & Pickup Database Management System** | *OracleSQL, ER Modeling* — Sep 2025 – Nov 2025
*Academic Project*

- Designed and optimized a HTML and PHP based web interface connected to a MySQL database through structured queries
- Performed defect tracking and debugging using structured validation queries, increasing reliability by 20 %
- Automated development workflows with Unix Shell scripts, improving build and testing automation

**Bookstore Management Application** | *Java, OOP, State Design Pattern, File I/O* — Feb 2025 – April 2025
*Academic Project*

- Designed and implemented a role-based Java application using the State design pattern for modular, reusable architecture
- Applied file I/O operations and structured exception handling to ensure secure data storage and retrieval
- Applied structured SDLC practices—requirements gathering, coding, debugging, and testing—for reliable project delivery