

MURTADHA NISYIF

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EDUCATION & CREDENTIALS

University of Guelph <i>Master of Applied Science in Computer Engineering</i>	Dec 2025
University of Guelph <i>Bachelor of Engineering in Computer Engineering</i>	Apr 2023
120-Hour TEFL Certification <i>Teaching English as a Foreign Language</i>	Sep 2026

TEACHING & INSTRUCTIONAL EXPERIENCE

ICT Teacher	Mar 2026 – Sep 2026
International Community School	Baghdad, Iraq

- Delivered the Cambridge ICT curriculum across 16 class sections (Grades 1–8), instructing over 280 students in computer fundamentals, digital citizenship, HTML, and programming using ScratchJr, Scratch 3, and Python
- Stepped into a mid-year role following a three-month instructional vacancy, designing targeted catch-up modules and project-based assessments to re-establish academic continuity
- Designed hands-on, grade-differentiated coursework and practical assignments, tracking progress through applied student lab deliverables and programming projects
- Administered a 22-seat Windows computer lab, configuring Windows Subsystem for Linux (WSL) environments to facilitate command-line and Linux exposure for Grade 11 AP Computer Science students
- Maintained classroom technology infrastructure, managing software installations, user workstations, and hardware troubleshooting to minimize instructional downtime

Graduate Teaching Assistant	Sep 2024 – Dec 2025
University of Guelph	Guelph, Ontario

- Instructed over 100 undergraduate engineering students across two core upper-year courses: Robotic Systems and Microcomputer Interfacing
- Led weekly laboratory sessions and practical demonstrations, guiding students through hardware/software interfacing, sensor integration, and robotic control algorithms
- Assessed student technical competencies across laboratory deliverables, code implementations, and project reports, delivering targeted formative feedback
- Held weekly instructional office hours and review sessions to clarify complex low-level system design and microcomputer programming concepts

RESEARCH & TECHNICAL EXPERIENCE

Graduate Research Assistant – Machine Learning	Jan 2024 – Dec 2025
University of Guelph	Guelph, Ontario

- Engineered semantic communication pipelines leveraging Swin Transformers, achieving a 30× reduction in bandwidth consumption and 29% lower end-to-end latency while maintaining over 96% task accuracy
- Developed adaptive transmission mechanisms to handle dynamic network fluctuations, ensuring stable real-time data flow for edge-to-cloud computing
- Quantized deep learning models to INT8 to simulate resource-constrained mobile hardware, establishing benchmarking workflows for edge deployment

SKILLS & TEACHING COMPETENCIES

Pedagogy & Curricula:	Cambridge ICT (Primary & Lower Secondary); AP Computer Science Support; Project-Based Learning (PBL); Formative & Summative Assessment; Differentiated Instruction; Digital Safety
Educational Tech:	ScratchJr; Scratch 3; Python; HTML/CSS; Windows Subsystem for Linux (WSL); Microcomputer Interfacing; Educational Lab Management
Technical Skills:	Python; C++; C; Java; Bash; Go; Linux/Unix Administration; Docker; Git; Edge Computing

TECHNICAL PROJECTS

Lab & Systems Infrastructure (Home Lab) <i>Docker, Linux, Prometheus, Grafana, SSL/TLS</i>
Configured and managed a containerized server environment running 15+ containerized services, implementing Prometheus and Grafana monitoring alongside automated SSL/TLS maintenance for 99.9% availability
Interactive Disease Prediction System <i>Python, Flask, HTML, CSS, JavaScript</i>
Engineered a web application connecting a RESTful Flask backend to an interactive frontend interface, performing feature normalization and predictive analysis with 95% accuracy

PUBLICATIONS

Network-Aware Adaptive Semantic Image Transmission in Edge-Cloud Communications	MECOM 2025
Coupled Swin-Transformers with real-time network telemetry to optimize transmission over dynamic network conditions (Published, IEEE Xplore)	
Boosting Edge-to-Cloud Data Transmission Efficiency with Semantic Transcoding	CCECE 2024
Leveraged edge-to-cloud transformer models to achieve bandwidth reduction and latency improvements for high-speed systems (Published, IEEE Xplore)	