Amin Eldery

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Education

Carleton University Ottawa, Ontario
Bachelor of Computer Systems Engineering, Co-op Option *Expected May 2028*

- Fourth Year Standing

Certifications

AWS Certified Cloud Practitioner (CLF-C02) 2026
Amazon Web Services

Work Experience

DevOps Engineering Intern (Co-op) May 2026 – Sep 2026
Terra Motion Canada *Kanata, Ontario*

- Developed two analysis tools in Python, C++, and MATLAB for Synthetic Aperture Radar (SAR) data processing and resolved software issues caused by evolving satellite data formats.
- Containerized 6 Python/C++ services using Docker and supported deployment on AWS (ECR, S3, Lambda), improving deployment consistency and scalability.
- Optimized software packaging using Nuitka and developed test cases to validate containerized applications and ensure deployment reliability.
- Configured and maintained Proxmox VE workstations by provisioning Linux virtual machines and troubleshooting virtualization and networking issues.
- Collaborated with cross-functional engineers using Git and GitLab to implement features, debug production issues, and enhance software performance.

Admin System Assistant May 2024 – Jan 2026
Bluestar Electric Engineering Corporation *Ottawa, Ontario*

- Administered and supported Dentrix software across multiple dental clinic environments.
- Troubleshot hardware, software, networking, and dental imaging system issues through remote support.
- Maintained Windows server infrastructure, user accounts, backups, and secure remote access services.
- Managed Microsoft 365, including Exchange, SharePoint, and Entra ID (Azure AD) administration.

Projects

FPGA Ethernet Packet Processing Engine | *Verilog, Vivado, Zybo Z7-20* Carleton University FPGA Club

- Designed an FPGA-based Ethernet packet processor in Verilog on the Zybo Z7-20, implementing FSMs, FIFOs, and packet parsing logic.
- Implemented CRC generation and validation to ensure reliable packet transmission and data integrity.
- Verified functionality using Vivado simulations and self-checking testbenches while analyzing timing closure and FPGA resource utilization.

Real-Time Traffic Light Controller | *Keil, C, MSP432, ARM Cortex-M4* Carleton University, Ottawa, Ontario

- Designed a real-time traffic light controller in Embedded C on the MSP432, implementing interrupt-driven pedestrian crossing and timer-based state transitions.
- Configured GPIO, timers, NVIC interrupts, and debouncing to ensure reliable real-time operation.
- Developed modular firmware drivers and validated functionality using Keil µVision and on-board debugging tools.

Skills

Languages: Python, C++, C, Java, ARM Assembly, MATLAB
Embedded & Systems: Verilog, Vivado, Keil µVision, ARM Cortex-M4, MSP432, Raspberry Pi, Arduino
Cloud & Tools: AWS (S3, ECR, Lambda), Docker, Proxmox VE, Linux, Git/GitLab, VS Code, Jira, Nuitka
Libraries & Frameworks: NumPy, PyTorch, JUnit