

# Abid Azad

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## EDUCATION

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### University of Waterloo

Sep 2023 - May 2028

*BASc in Electrical Engineering*

## TECHNICAL SKILLS

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**Languages:** C, C++, Java, Python, SQL, VBA, HTML, CSS, JavaScript, VHDL, Node.js, ASM

**Tools:** Altium, AutoCAD, KiCAD, STM32, Arduino, VESC, COMSOL, Airtable, Zoho, Make, MATLAB, n8n

**Instrumentation:** Oscilloscope, SMU, LCR meter, Function generator, Logic analyzer

**Protocols:** UART, SPI, I2C, CAN

**Certifications:** AZ-900, AI-900

## EXPERIENCES

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### Team Member

Sep 2025 - Present

*UWASIC*

*Waterloo, ON*

- Designing low-power analog circuits (DAC/ADC, current sensing) for matrix-vector multiplication to highlight analog energy efficiency.
- Prototyping programmable resistors and TIAs using IEEE circuit models to optimize power and signal accuracy.

### Operational Systems Engineer

May 2025 - Aug 2025

*Toronto Business Development Centre*

*Toronto, ON*

- Led AI-driven systems transformation by integrating OpenAI and automation APIs into Airtable and Zoho, enabling dynamic data entry and workflow generation across 3 departments.
- Managed cross-functional web and mobile development projects, guiding technical design, implementation, and feature prioritization across Supabase, React, and Tailwind stacks.
- Automated company-wide CRM processes with custom AI scripts and data pipelines, reducing manual input by 30% and improving reporting accuracy on 1 000 + records.

### Data & Systems Intern

Sep 2024 - Dec 2024

*Toronto Business Development Centre*

*Toronto, ON*

- Built internal automation systems using Make, AppScript, and AI-assisted workflows, improving data transfer and validation between Airtable and Zoho by 80%.
- Prototyped low-code dashboards and AI-assisted reporting workflows, cutting manual analysis time by 25%.

## PROJECTS

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### USB-C to 5 V / 3.3 V Power Supply PCB | *KiCAD*

- Designed a 2-layer USB-C power-distribution PCB with CC resistors, ESD/TVS, and polyfuse protection using KiCad schematic capture and layout tools.
- Generated fabrication files (Gerber, BOM, CPL) and validated design through ERC/DRC checks, trace current simulation, and 3D layout review for manufacturability.

### MedAssure | *STM32, C, AutoCAD* | **Github**

- Developed smart medication container with temperature/humidity tracking achieving 95% sensor accuracy.
- Programmed LCD UI reducing user input time 30%; designed 3D casing in AutoCAD Inventor for ergonomic fit.

### Morse Code Transmitter | *RISC-V, GPIO Control*

- Developed a bare-metal Morse code transmitter in RISC-V assembly, controlling on-board LEDs via GPIO register writes and precise 500 ms timing loops.
- Implemented subroutine-level firmware architecture using manual stack management, register-based parameter passing, and a 16-bit Morse LUT for bitwise pattern decoding and LED modulation.

### Traffic Light Controller | *VHDL, LogicalStep FPGA*

- Designed and synthesized a Moore FSM in VHDL to control a three-way intersection, integrating timers, synchronizers, and holding registers for reliable state transitions.
- Simulated and verified RTL behavior in ModelSim and deployed to FPGA via Quartus Prime, confirming correct timing, sequencing, and hardware functionality.