Areeba Mobeen

647-522-5350 areeba.mobeen@gmail.com linkedin.com/in/areebamobeen US. Citizen

Work Experience

Qualcomm **May 2024 – August 2025**

ASIC Design Verification Engineering Intern *Markham, ON*

- Enhanced legacy and UVM testbenches **(C++/SystemVerilog)** by debugging failures in the regression test suite, achieving a **100% test pass rate** across **12+ design features** and enabling successful verification of Display IP.
- Refined and maintained existing coverpoints and coverage bins **(SystemVerilog)**, increasing **functional verification** coverage by over **45%**, improving the traceability of key design states and signal transitions.
- Automated triage of **500+ regression failures** by developing a script in **Perl** to parse simulation logs, significantly reducing root cause identification time and accelerating team debugging efforts.
- Remodeled the team's **UVM** regression workflow by developing a suite of **Perl scripts** to set up and launch regressions, and parse regression logs to triage error messages, cutting manual tasks by ∼**40%**.
- Debugged time-sensitive design functionality by analyzing simulation waveforms in **Synopsys Verdi**, tracing test sequences to ensure validity of timing parameters, register values, and hardware accesses.
- Contributed to the bring-up of two **Embedded DisplayPort** design features in **UVM** by developing **directed and constrained-random test cases**, ensuring cross-feature verification and seamless integration into the existing testbench.

University of Toronto **May 2023 – August 2023**

Coding Instructor *Toronto, ON*

- Developed and delivered a project-based curriculum to **120+ students** ages 10-12, covering **Python** fundamentals and **web development**.
- Led **HTML/CSS** workshops, guiding students to build personalized portfolio websites, with **98%** of participants reporting increased confidence in web development skills.
- Facilitated hands-on **Python** projects such as maze-navigating robots and sensor-based interactive games, reinforcing core programming concepts and event-driven logic.

Projects

Deep Learning Image Classifier **April 2024**

- Built a deep learning–based waste sorting system in **PyTorch** using **Convolutional Neural Networks** to classify waste into six categories: Cardboard, Glass, Metal, Paper, Plastic, and Trash.
- Achieved **82% accuracy** by applying advanced pre-processing, augmentation, and dataset balancing on a large Kaggle dataset.
- Improved recycling efficiency and reduced contamination in sorted waste, supporting sustainable waste management practices.

Computer Hardware Game **March 2023**

- Developed a Buzzwire game interfacing with the **DE1-SoC** board, writing IRQ handlers in **ARM Assembly** for keys, the ARM A9 private timer, and reading voltage changes via the ADC port.
- Displayed real-time game graphics on the VGA screen using **C**, integrating hardware inputs with visual output for interactive game play.

Custom Processor **February 2023**

- Designed a 16-bit, 8 register processor to perform various operations using **Verilog** on **Intel Quartus Prime**
- Reduced processor verification debug time by developing and running **ModelSim testbenches**, identifying logic bugs.

Education

University of Toronto **Expected June 2026**

B.A.Sc. in Electrical and Computer Engineering

Technical Skills

Languages: C++, C, Python, ARM Assembly, Verilog, SystemVerilog, Perl, HTML, CSS
Tools & Methodologies: UVM, Synopsys Verdi, IBM Clearcase, Intel Quartus Prime, ModelSim, Git