

# Tauheed Elahee

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GitHub: <https://www.github.com/Tauheed-Elahee>

Availability: 4 months starting May 2021

## Education

**Bachelor of Electrical Engineering, Co-op Option** **2016 - Present**  
**Carleton University | Ottawa, ON**

- 4th year standing, 10.90/12 (A-)
- Dean's Honour List (2016-2017, 2017-2018, 2018-2019)
- Expected Year of Graduation: April 2022

## Technical Skills

- **Languages:** Verilog, Bash, C, C++, Rust, Java, JavaScript, HTML, CSS, Qt/QML, L<sup>A</sup>T<sub>E</sub>X
- **Software:** MATLAB, SPICE, EDA, Microsoft Office, git, Linux
- **Hardware:** FPGA, microcontrollers, microprocessors

## Work Experience

**Co-op: FPGA Software** **January 2020 - August 2020**  
**Ross Video | Ottawa, ON**

- Designed, created, updated and modified modules written in verilog in order to implement features such as 12G (4K at 60 FPS) support and easier video feed loss detection.
- Designed and implemented a CPLD to multiplex various SPI busses to ensure that multiple sensors could be accessible while respecting design constraints.
- Debugged via simulation and signal tapping to find and understand errors in design or implementation and then proposed and implemented fixes.
- Created python script to partially automate verification of pin layout consistency and bus connections in schematic design capture.

**Co-op: Device Driver Developer** **September 2019 - December 2019**  
**Sanmina | Ottawa, ON**

- Wrote drivers, in C++, to communicate with an RF swticher board so that information can be loaded onto and from the device.
- Wrote C++ libraries to be able to use both an SPI and I2C busses to communicate with sensors and memory modules on the board.
- Created a Windows executable so that the board can be tested through a command line interface and create a dll for LabView so that testing could be automated.
- Conducted and assisted with tests of the board and report on results and then implement any changes.
- Set up a git repository with GitLab to have a proper development environment for team of more than one and setup a CD/CI workflow.
- Moved the build system to CMAKE to help ensure reproducible builds.
- Wrote python and bash scripts to autmote testing a sensor array with a raspberry pi.

## Applied Projects

**Drink Dispensing and Entertainment Device** **January 2019 - April 2019**  
**3<sup>rd</sup> Year Engineering Project | Carleton University**

- Soldered through hole and surface mounted electrical components
- Designed, build and debuged h-bridge circuits and control systems
- Programed microcontrollers such as Jeenode, Arduinos and Raspberry Pi
- Created libraries in C++ to communicate and control sensors and motors
- Used git to coordinate the development of software across a team