

Bruno Almeida

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brunoalmeida.ca
Toronto, ON, Canada

EDUCATION

BASc, Computer Engineering – University of Toronto

Sep 2016 – Apr 2021

- 3.9/4.0 CGPA, Dean's List

WORK EXPERIENCE

ASIC Engineering Intern – Tenstorrent

May 2019 – Present

- Implemented and debugged Python and Bash scripts for in-lab PCB bringup, automated regression testing, performance sweeps, and active power measurements
- Reviewed and corrected issues in PCB schematics and layout for switched-mode power supplies, power monitors, and high-speed serial protocols
- Designed new test generators in C++ to reproduce, investigate, and debug Verilog RTL issues using waveforms and register dumps
- Reworked a constraint solver system in Python to extend coverage of input data format variations for constrained random verification of an RTL block

FPGA Engineering Intern – Kepler Communications

May 2018 – Aug 2018

- Led integration of a client's IP for RF mapping of Ku-band signals in low-earth orbit by integrating an IP core into the RTL design, conducting in-lab testing using internal logic analyzers and signal generators, and writing Python scripts to automate signal generation and output data collection
- Interfaced an IP core to implement the JESD204 standard for high-speed DAC output and brought up a new testbench using SystemVerilog, ModelSim, and Vivado
- Refactored the software-defined radio initialization procedure in Python to establish common functionality for configuring Ku-band radio parameters through a memory-mapped interface

CLUBS

Software Lead, Electronics Systems Lead, Instrumentation Lead

Jan 2017 – Present

University of Toronto Aerospace Team, Space Systems Division

- Led team members in the development, testing, and integration of C firmware for AVR microcontrollers using the SPI, I2C, UART, and CAN protocols for a microbiology research satellite to be launched in 2020
- Defined functional requirements for PCBs and contributed to design, soldering, and bringup using Altium Designer, primarily for the main onboard computer and systems debugging PCBs
- Created a system wiring document to define inter-subsystem wiring for power distribution, transceiver and antenna interfaces, inter-microcontroller communication, error recovery reset signals, programming interfaces, and debugging signal breakouts
- Defined and implemented systems protocols for satellite-wide firmware architecture, ground station communication, inter-subsystem commands, and mission data memory organization

Student Ambassador – University of Toronto Engineering

Mar 2017 – Present

- Represented the faculty at recruitment events for prospective students and parents
- Participated in student panels, spoke about extracurricular opportunities, and answered questions about admission requirements and program selection

SKILLS

Hardware/Embedded – PCB Design/Bringup, Soldering, RTL Design/Verification, Firmware

Tools – Altium Designer, SystemVerilog, Vivado, Quartus Prime, ModelSim, AVR, Arduino, MATLAB

Programming – C, C++, Assembly, Python, Bash Scripting, Make, GDB, Git

Interests – Mentorship, UI/UX Design, Tennis