Job Posting:171711 - Position: F25 Embedded Software/Firmware Co-op Engineer 171711B

Co-op Work Term Posted:	2025 - Fall
App Deadline	08/05/2025 09:00 AM
Application Method:	Through UBC Science Co-op
Posting Goes Live:	08/01/2025 10:25 AM
Job Posting Status:	Approved

ORGANIZATION INFORMATION

Organization	UBC Okanagan
Country	Canada

JOB POSTING INFORMATION

Placement Term	2025 - Fall
<b> Job Title <b>	F25 Embedded Software/Firmware Co-op Engineer 171711B
Position Type	Co-op Position
Job Location	Kaleden, BC
Country	Canada
Duration	4 months
Work Mode	Hybrid
Salary Currency	CAD
Salary	25.0 per hour for 35 Major List

Job Description

Job description: UBC Okanagan and the National Research Council's Dominion Radio Astrophysical Observatory (DRAO) are upgrading the DRAO Synthesis Telescope (ST) with a modern digital backend. The co-op student will be working on developing embedded software/firmware for the digitizer for this upgrade. The ST Digitizer is a commercial hardware platform with a Xilinx Radio Frequency System on Chip (RFSoC) FPGA. The FPGA contains an ARM processor. The student will be working on the development, testing and integration of embedded software/firmware using design tools such as VHDL/Verilog, Vivado, Peta Linux, Python and PYNQ. The tasks include the configuration of a Linux-based Operating System (OS) for embedded ARM processor; embedded software development for the ARM processor to monitor and control custom IP blocks; and documentation of embedded software design and test results.

Responsibilities:

1. Develop and test VHDL/Verilog firmware to integrate custom IP blocks in Xilinx RFSoC FPGA.
2. Build custom Linux image for RFSoC FPGA ARM processor.
3. Develop and test embedded software for RFSoC FPGA ARM processor and its peripherals (1GbE, uSD, SPI, I2C, UART, USB, DDR4, and GPIOs).
4. Develop and test embedded software to monitor and control custom IP blocks.
5. Document the design and test results for RFSoC FPGA Digitizer development.

Job Requirements

1. Some working experience with digital circuit, FPGA and HDL (Hardware Description Language).
2. Some working experience with C/C++.
3. Some working experience with Linux.
4. Some working experience with Python.
5. Some familiarity with signal processing (ADC/DAC, FFT, FIR) would be a plus, but not required.

Other requirements: The successful applicant will be required to obtain a reliability security clearance to access the DRAO facility. Associated costs will be covered by the employer. This position is funded by a grant from the Canada Foundation for Innovation (CFI) to UBCO.

Citizenship Requirement N/A

APPLICATION INFORMATION

Application Procedure Through UBC Science Co-op

Address Cover Letter to Dr. Alex Hill

Special Application Instructions

Requested documents: Please provide a brief cover letter explaining your interest and qualifications for this position including names and contact information for two references, a resume or curriculum vitae, and an unofficial transcript.
Reports to: The co-op student will report to Prof Alex Hill (UBCO Astronomy) and work closely with Dr Thushara Gunaratne and Heng Zhang (DRAO).