

Part-Time Research Assistant Position at the AARH

Embedded Systems, Sensor Testing & Laboratory Prototyping

The Acadia AIoT Research Hub (AARH) at Acadia University is seeking a motivated part-time Research Assistant to support hands-on laboratory research involving embedded systems, sensor modules, electronics, and Internet of Things (IoT) prototypes.

This is a fully in-person, laboratory-based position. The successful candidate must complete 100% of their scheduled work hours physically in the AARH laboratory. Remote or hybrid work is not available for this role.

Responsibilities

- Program, configure, and troubleshoot embedded platforms, including ESP32, Arduino, and Raspberry Pi.
- Connect, test, calibrate, and validate sensor modules and electronic components.
- Build and test laboratory prototypes using breadboards, wiring, interfaces, and basic electronic tools.
- Develop and debug embedded software in C/C++, Python, and relevant microcontroller development environments.
- Work with common communication interfaces and protocols, such as UART, I2C, SPI, GPIO, Wi-Fi, and Bluetooth.
- Collect, organize, and analyze experimental sensor data.
- Document wiring, source code, test procedures, results, faults, and corrective actions.
- Maintain an organized, safe, and functional laboratory workspace, including equipment and component inventory.
- Support graduate and undergraduate researchers with hardware setup, testing, and troubleshooting.
- Provide regular progress updates and collaborate with the research supervisor and other lab members.

Required Qualifications

- Demonstrated hands-on experience with embedded programming and hardware prototyping.
- Practical experience with at least two of the following platforms: ESP32, Arduino, or Raspberry Pi.
- Experience connecting, testing, and troubleshooting sensor modules and basic electronic circuits.
- Working knowledge of C/C++ and/or Python.
- Ability to read pinout diagrams, wiring diagrams, component datasheets, and technical documentation.
- Ability to use basic laboratory tools, such as a digital multimeter, breadboard, power supply, and soldering equipment.

- Strong troubleshooting, organization, documentation, and communication skills.
- Ability to work independently while following laboratory procedures and safety requirements.
- Availability to perform 100% of scheduled work hours in person in the AARH laboratory at Acadia University.

Other Preferred Qualifications (Assets)

- Basic experience with IoT systems, wireless sensor networks, or environmental and industrial sensors.
- Basic Experience with printed circuit boards, soldering, or electronics repair.
- Any Experience using oscilloscopes, logic analyzers, or other electronic test equipment.
- Any experience in fluid/mechatronic systems, using pumps, tubing, valves, motors, sensors, CAD, and 3D-printed components.
- Familiarity with Git/GitHub and clear technical documentation practices.

Application

Interested applicants should email the following:

- CV/resume.
- Unofficial transcript (if available).
- In your application email please outline brief description of relevant hands-on experience with embedded systems, sensors, electronics, and laboratory testing.
- Links to GitHub repositories, portfolios, demos, or previous projects (if available).

Email: Dr. Esteve Hassan, Esteve.hassan@acadiau.ca

Applications will be reviewed as they are received until the position is filled.