

Software Lead - High Altitude Payload

Description

SFU Rocketry is seeking an exceptional individual to become the Software Lead for our High Altitude Payload (HAP) project. This team is responsible for developing software and firmware for the flight and ground station of our stratospheric balloon project. As the Lead of this team you will report to the Director of Software Systems, and your tasks will primarily be managing the direction and execution of the software aspects of the HAP project, as well as collaborating with the other Leads and members of other subteams involved within the HAP project. Your duties may also involve working on the same tasks as the Senior and Junior Developers. This position is an excellent opportunity to enhance leadership and management skills not taught in technical degrees.

Duties & Responsibilities

- Manage the direction, execution, and completion of all project software tasks
- Lead and inspire the Senior and Junior software members within the project
- Foster a team environment that promotes a healthy culture, positivism, engagement and retention
- Collaborate and communicate with other leads and subteam members within the team
- Meet to provide updates and represent your team with the Director of Software Systems
- Assist Senior and Junior software members in their tasks where needed:
 - Develop software to run within freeRTOS real time operating system and/or embedded linux environment
 - Develop and modify hardware drivers to interface with sensors and peripheral devices.
 - Manage multiple parallel processes within the RTOS environment, designing and validating for robust and mission-critical operation
 - Develop tests to validate the firmware directly with in-lab and in-field hardware
 - Collaborate and communicate with RF/Avionics hardware engineers about requirements, needs, and capabilities
 - Program sensor fusion filters for positional mapping and flight path predictions
 - Develop graphical interfaces for reporting positional readouts and predictions
- Assist in getting SFU Rocketry to the edge of space!
- Contribute with a minimum of 6 hours of work and 2 hours of meetings per week

Key Qualifications

- Team leadership experience
- Product management experience is an asset
- High level of professionalism
- Unifying, motivating, and inspiring
- Knowledge of performance metrics is an asset
- Self-starter, inspired to initiate action
- Firmware and embedded systems
 - Arduino, Raspberry Pi, other microcontrollers and sensors
 - Low level C or C++

- Serial communication protocols (SPI, I²C, UART, etc)
- Low level operating systems knowledge is an asset
 - Interrupts, processor scheduling, parallel threads, pointers, memory structure are all assets
 - Linux, freeRTOS knowledge is an asset
- Sensor Fusion experience is a strong asset
- Advanced math knowledge is an asset
- GUI or Webapp development is an asset
- Simple electronics hardware knowledge (breadboarding, voltage and current concepts)
- Creativity, ability to think outside the box, is a strong asset

Education & Experience

- Students pursuing a Software Systems, Computing Science, Computer Engineering, Business, or equivalent undergraduate or graduate degree at Simon Fraser University (preferred)
- Preference for third/fourth year if in undergraduate studies
- Preference for technical majors with business minors, or business majors with technical minors
- Faculty or staff members of Simon Fraser University are welcome to apply
- Preference for this role given to those with related experience in key qualifications, though all levels of experience are encouraged to apply

Job Details

- Part-Time / Casual
- Volunteer Student Design Team Position
- Hybrid - Surrey SFU Engineering Building
- Commitment for a minimum of 12 months after onboarding
- Promotion opportunities for Director and Executive positions

Statement from SFU Rocketry

SFU Rocketry is an inclusive and equal opportunity organization. We welcome, include, and respect all regardless of race, colour, ancestry, place of origin, religion, family status, marital status, physical disability, mental disability, sex, age, sexual orientation, gender identity or expression, political belief, or conviction of a criminal or summary conviction offence unrelated to employment.

SFU Rocketry is Simon Fraser University's largest active design team in the university's history, and has a strong reputation to uphold. Our members are highly sought-after and have been actively recruited for permanent and co-op intern industry positions. We operate as a professional organization, where professional conduct is required and expected from all SFU Rocketry members at all times.

Learn More about SFU Rocketry

Visit our website - <https://www.sfurocketry.com>