

## LAB ENGINEER – SOFTWARE DEVELOPER

### SUMMARY

**Job Profile:** Non-Union Salaried - Research Assistant /Lab Engineer

**Job Category:** Non-Union Technicians and Research

**Compensation:** \$45,000 CAD gross annual (including benefits such as EI, CPP etc.)

**Start date:** Oct 01, 2022

**End date:** Oct 01, 2023

Performs engineering work at the Microfluidics and Nanotechnology Lab (MiNa Lab, <https://www.minagroup.ca>) at the University of Victoria. The field of work relates to computer engineering, computer science, electrical, electronic, and/or software engineering.

### ORGANIZATIONAL STATUS

The position reports to the lead researcher, Professor Mina Hoorfar and the research lab manager.

### REQUIRED EDUCATION:

- Bachelor of Applied Science in Software, Computer, Electrical, or comparable engineering field or Bachelor of Science in Computer Science or other relevant discipline

### PRIMARY POSITION SKILLS

- Training in software development (particularly focused on database management and machine learning techniques)
- Works together with Rapid Prototype engineer to design, assemble and test prototype devices
- Strong programming skills in Python, MATLAB and C languages
  - Knowledge of microcontrollers and general prototyping computers (Arduino, Raspberry Pi etc.) is highly desirable
  - PCB design experience and circuit assembly is preferred

### WORK PERFORMED

Within clearly defined assignments and in accordance with oral and written instructions received from PI/Lab Manager:

- Provide software engineering services in support of engineering and physical science research activities, performing professional engineering work involving the solution of engineering problems and/or the design of specialized equipment and instrument systems.

- Fabricate and test and/or supervise fabrication of research-based prototypes; assist in selection and purchase of components.
- Apply a wide breadth and depth of theoretical and practical knowledge, scientific and engineering insight, and the ability to predict results from theoretical knowledge, develops assigned aspects of an investigation, plans experimental procedures, evaluates, and validates data and reports findings.
- May supervise undergraduate and graduate students on relevant projects.
- Consults with other software engineering and research specialists; keeps abreast of state-of-the-art advances. Maintains contact with vendors and assist in infrastructure-related grants.

### **CONSEQUENCE OF ERROR**

Research projects require successful prototyping of proof-of-concept sensing devices. Errors in project execution will adversely impact project schedule and the utility of the results reported. Accumulated errors will affect the reputation of the Microfluidics and Nanotechnology (MiNa) Laboratory, the Faculty of Engineering and Computer Science and UVic and will compromise the Lab's ability to obtain future funding.

### **SUPERVISION RECEIVED**

The Lab Engineer – Software Developer will work independently and have excellent time management skills. They will work under general direction provided by the Research Staff team. The position has considerable latitude in setting goals, schedules, which require a high degree of professional skill, organization, and motivation. Regularly scheduled meetings will provide the basis for the monitoring of the work. In most cases, more frequent interaction will result due to specific project requirements and normal daily meetings.

### **SUPERVISION GIVEN**

Manages selected undergraduate and graduate students who will participate in various research projects.

### **QUALIFICATIONS**

Undergraduate degree in a relevant discipline. Minimum of two years' experience or the equivalent combination of education and experience. Graduate degree with skill in setting up experimental equipment, managing experiments and data collection and analysis is preferred. Minimum of two years' experience or the equivalent combination of education and experience. Proven ability to manage technical projects and to communicate technical results and analysis in oral and written form is required. Ability to effectively train research staff and students is required. Effective oral and written communication, organizational and interpersonal skills.

