

Job Title: IT Analyst and Cloud Computing Developer

Start Date: March 1, 2021

Job End Date : 1 year renewable pending on funding and performance

Salary: commensurate with experience and competitive

Job Summary

Are you interested in applying your system administration and software development skills to public health infectious disease challenges? The Hsiao Laboratory (<https://www.sfu.ca/fhs/about/people/profiles/william-hsiao.html>) at Simon Fraser University has an immediate opening for an IT analyst position.

The successful candidates will have close interaction with other researchers and scientific programmers in the IRIDA project (<http://www.irida.ca/>) - a Canada-wide collaboration with international partners to develop bioinformatics resources for genomic epidemiology. The candidate will also work with public health professionals (our end users and stakeholders) to ensure the tools we develop can directly benefit health care research and operations. IRIDA is the primary platform used in Canada's National Microbiology Laboratories for infectious disease investigations.

The primary responsibilities of the candidate will be to work with other IT professionals at SFU to help administer the cluster and cloud computing environments necessary for performing data analysis and to make the IRIDA platform and associated bioinformatics resources further "cloud-compatible and deployable". Secondary responsibilities include helping to design and develop new bioinformatics analysis workflows and troubleshooting system errors. The candidate, as part of a research group, will participate in scientific conferences, presentations, and publications. In collaboration with other members in the Hsiao laboratory, use of ontology to integrate metadata will be explored. Knowledge of biology is not essential but interest in applying computer science and statistics to solve health care and biological problems is required. Technologies currently used by the group include SQL, python, JAVA, Workflow development frameworks e.g(Snakemake, Nextflow), RDF (resource description framework), OWL, JSON, Javascript, virtualization (docker and VM), Galaxy (<https://galaxyproject.org/>), OpenStack, REST API, SPARQL, GitHub version control, Conda, Django framework, and the Java Spring framework.

The primary work location will be Simon Fraser University Burnaby Campus located in Greater Vancouver. Simon Fraser University is surrounded by wonderful greenspace on the Burnaby Mountain Conservation Area approximately 5 km from the edge of the city of Vancouver (and a three-hour drive north of Seattle, Washington, in the U.S.). SFU has been consistently ranked as Canada's top comprehensive University (Maclean's ranking no. 1 for 13 of the last 14 years). During the current pandemic, the candidate will work remotely until further notice.

Work Performed:

- Design and develop cloud-based solutions for the IRIDA platform
- Develop cloud and semantic web enabled applications as part of the core IRIDA development team

- Design and implement new data analysis pipelines using the IRIDA framework
- Package the analysis pipelines using container technologies
- Test and deploy analysis workflows on computing clusters
- Setup bioinformatics software and other software packages needed for the research team
- Document installation of workflows and containers
- Participate in scientific discussions and presentations

Qualifications:

- BSc or MSc in computer science, computer engineering, bioinformatics, computational biology, or relevant experience or certification.
- Documented experience with software development (minimal 3+ years of experience).
- Documented experience with Linux system administration (minimal 3+ years of experience).
- Proficiency in at least one of: C++, Java, Python (preferred), JavaScript (preferred) and ability To write shell scripts to automate tasks.
- Must have excellent communication skills and be fully fluent in spoken and written English.
- Familiarity with cloud computing systems (Compute Canada Cloud, Amazon Web Services, MS Azure, and Google Cloud Platform) and containerization technologies (Docker)
- Must have strong self-motivation and be able to work in a multi-tasking and multi-disciplinary environment.

Other Considerations (experience considered an asset):

- Experience working with genomics data is an asset.
- Experience in designing and building robust computational pipelines in a Unix-like environment.
- Familiarity with Django web development framework.
- Familiarity with next generation sequencing technologies such as Illumina and Oxford Nanopore sequence platforms and the associated computational analysis tools.
- Familiarity with semantic web technologies and ontology development.

Contact:

Please send your cover letter, CV and names of two referees to Dr. William Hsiao (hsiaolab-jobs@sfu.ca) with the subject line: **Position-IT Analyst**. We thank all applicants and regret that only those selected for an interview may be contacted further.

We hire on the basis of merit and are committed to employment equity. All qualified persons are encouraged to apply. We especially welcome applications from members of visible minority groups, women, Aboriginal persons, persons with disabilities, persons of minority sexual orientations and gender identities, and others with the skills and knowledge to engage productively with diverse communities. In accordance with immigration requirements, preference will be given to Canadian citizens, landed immigrants and permanent residents of Canada. We are committed to providing employees with a positive working environment supporting growth and flexibility. Simon Fraser is located in a beautiful conservation area in metro Vancouver with access to a wide range of recreational opportunities. Contact us to learn more.