WL W16 Bioinformatics Researcher - Software Development

WorkLearn Position Advertisement

Job Description

POSITION SUMMARY:

The Lange laboratory focuses on pediatric cancer research using proteomics and is located at the BC Children's Hospital Research Institute new diagnostic and therapeutic approaches to detect and treat children suffering from cancer earlier, better and with reduced impact on their life. To reach this goal we use proteomics and other biochemistry, cell biology and molecular biology approaches to study protein function and cell signaling related to childhood cancer. We complement our experimental work with bioinformatics to improve the functional analysis of genomics and proteomics data and guide personalized treatment decisions.

We are seeking an exceptional undergraduate student with software or database development background to join our growing team as Research Assistant. In this position you will work on a variety of projects of varying complexity including data mining, development of a biological knowledgebase, development of tools and algorithms for bioinformatics data analysis as well as the development of user-friendly web interfaces and installation of software solutions related to proteomics research.

If you want to benefit from close interaction with the Principal Investigator, are passionate about research and want to apply and grow your skills in bioinformatics to solve and advance cancer research in a young and dynamic research team this position

is a great fit. Genuinely interested candidates are encouraged to mention ‘bioinformatics in childhood cancer’ in their cover letter.

ROLES and DUTIES:
- Implements and maintains database solutions to support proteomics cancer research
- Develops scripts for automated data mining and data analysis under general guidance
- Develops web frontends
- Performs data mining
- Installs and maintains research specific software packages (Trans Proteomic Pipeline, Galaxy, Maxquant, …)
- Prepares documentation of the work

About 10 hours/week are anticipated. Working hours can be flexible and the candidate can volunteer additional hours to increase the scope of the research program.

If the tasks are completed in a timely manner, the student will also have the opportunity to work on his/her own research project.

MENTORING and SUPERVISION:
The student will be mentored and directly supervised by the Principal Investigator. The tasks are of moderate complexity and will generally be carried out independently. The Principal Investigator is available to discuss problems and possible solutions or alternative implementations.

In addition to on-the-job coaching he/she will regularly meet with the Principal to monitor work progress and discuss challenges and opportunities. The student will also be invited to team meetings to further enhance his/her exposure to scientific research. The

student will be encouraged to ask questions and suggest ways in which their learning experience could be enhanced.

RELATIONSHIP TO RESEARCH GOAL

The Research Assistant's work is an immanent part of ongoing cancer research projects and will directly contribute to their timely execution and success.

Qualifications

EDUCATION and EXPERIENCE

This position is suitable to an experienced graduate student enrolled in a UBC computer

EDUCATION and EXPERIENCE

This position is suitable to an experienced undergraduate student in their 4th year enrolled in a UBC computer science / bioinformatics program or life science program with additional experience in software development. Previous experience in working in a research laboratory and/or as software developer is an asset.

KNOWLEDGE, SKILLS AND ABILITIES:

- Genuine interest in research
- Must have excellent communication skills and be fully fluent in spoken and written English
- Able to work in a team environment and independently
- Must be detail-oriented
- Enthusiastic, organized, and responsible
- Ability to multi-task
- Strong programming skills in at least one of Python, C/C++ or Java
- Solid knowledge of open database systems such as Hadoop, HBase, MapReduce, MongoDB or Elastic Search

- Good knowledge in R would be an asset
- Experience with bioinformatics resources and tools such as UniProt, Bioconductor, BioPerl/BioJava, Galaxy, considered an asset
- Experience in web interface development (CSS, java script, …) are an asset

Faculty/VP

Faculty of Medicine

UBC Department

Pathology and Laboratory Medicine

Student Learning Components (UBC Vancouver Work Study/Work Learn Program)

ORIENTATION & TRAINING:

The Research Assistant will be introduced to the team and receive an extensive orientation of the laboratory and facilities at the BC Children's Hospital Research Institute by the Principal Investigator. The orientation session also serves to familiarize the student with the research laboratory environment and laboratory policies. The Research Assistant will be introduced to the on-going research projects. Tasks at hand will be prioritized to reflect current requirements as well as the student's specific skills and interests.

FEEDBACK, ONGOING SUPPORT & REFLECTION:

The Research Assistant will report directly to the Principal Investigator. He/she will receive feedback on progress and performance during monthly 1 on 1 meetings with the Principal Investigator. During these meetings, the student will be encouraged to discuss problems at hand and point out areas of interest where the student may want to gain further experience broadening personal and professional growth.

The student will be invited to attend regular team meetings to increase exposure to the ongoing research. The student will be encouraged to discuss the background, challenges and the broader scope of his work with the Principal Investigator at all times.

MENTORSHIP & CAREER BUILDING:

In addition to formal mentoring by the Principal Investigator the student will receive informal mentoring and coaching through his work in a highly collaborative environment. In this environment the position involves working closely with the Principal Investigator, members of the research team as well as members from neighboring research labs, which include undergraduate and graduate students as well as postdoctoral fellows and technical support staff. Through this the student will be able to form and expand a future professional network and obtain a better understanding of different research career paths. This will greatly assist the student in defining and pursuing her/his future career goals.

ENGAGEMENT IN RESEARCH:

When the Research Assistant completed all the tasks at hand, he/she will also be offered the opportunity to carry out his/her own research project. Through this, the student will acquire additional hands-on training in a multidisciplinary research setting, which will complement the theoretical knowledge learned in class. The skills acquired through the research oriented tasks and independent research project will undoubtedly be beneficial to the student's career development in a research oriented setting. Gained expertise in software development and communication will be applicable to many industries. The work is also an excellent opportunity for the student to further improve his/her communication skills through learning how to effectively communicate problems and challenges and how to organize and present material to various stakeholders.

PERSONAL & PROFESSIONAL DEVELOPMENT
The student will develop and further the following competencies:
- Critical and analytical thinking
- Organizational skills
- Teamwork
- Communication and presentation skills
- Understanding of research laboratories
- Gaining insight into cancer research
- Expertise in proteomics data analysis

- Expertise in biological resources, R and functional analysis of proteins
- Networking opportunities with medical professionals and researchers
- Opportunity to conduct own research project
- Opportunity for involvement in future research projects if the successful candidate is interested

Hours Per Week

10

Salary / Wage

$16.89

Preferred Degrees/Disciplines

Applied Science/Engineering, Computer Science/IT, Science/Environment/Agriculture, Health Sciences

Additional Documents (preferred)

Cover Letter

Anticipated Start Date

September 1, 2016

Experience Level

Current Students in an Undergraduate Program, Current Students in a Masters Program, Current Students in a Phd Program

Reference

"WL W16 Bioinformatics Researcher - Software Developemnt & Data Mining." *Https://ubc-csm.symplicity.com/students*. UBC Vancouver Work Learn Program, 01 Aug. 2016. Web. 03 Aug. 2016.