Nipissing University
Job Description

Job Title: Computer Science and Mathematics Research Intern (E-CARGO)

Department: Department of Computer Science and Mathematics

Length of Contract: Full-Time Contract (1 Year)

Supervisor: Dr. Haibin Zhu

Summary of Functions:

Based in Nipissing University's Collaborative Systems Laboratory (CoSys Lab), the research intern will report to Dr. Haibin Zhu. The activities of the intern will support the operation of Dr. Zhu's research program dedicated to the E-CARGO model and applications.

The intern will be involved in a wide range of research activities, spanning the research process from project conceptualization to dissemination. This may include (but are not limited to) tasks related to study planning, literature review, data collection (including processing and analysis), research dissemination, assisting undergraduate research students, coordinating lab operations, and maintaining lab safety standards. Additional opportunities may include attending and presenting at conferences and co-authoring manuscripts for submission to peer-reviewed journals. Training for all responsibilities will be provided by the supervisor.

This opportunity is proudly supported by the Northern Ontario Heritage Fund Corporation and is funded through the Workforce Development Program.

Eligibility requirements of the program can be found here: https://nohfc.ca/en/pages/programs/people-talent-program/workforce-development-stream

Duties & Responsibilities

1) Programming 65 **%**

- Become proficient in the use of Java or Python programming language
- Contribute to the investigation of various aspects of E-CARGO problem formulations
- Java or Python program development to solve the specified problem
- Design and prepare testing data
- Making experiments to collect data

2) Coordination of lab activities and training 15 **%**

- Assist undergraduate research students with coding
- Train undergraduate research students on coding
- Coordinate day-to-day lab operations
- Maintain safe working environment in the lab

3) Study planning and preparation 10%

- Review literature to assist in study design
- Write system requirement report

4) Data analysis and dissemination 10 **%**

- Prepare supplementary/supporting data for peer reviewed publications
- Assist in manuscript writing

5) Any other lab duties as assigned by supervisor.

Qualifications:

Education:

An undergraduate degree in Computer Science, or a closely related field is required. The successful candidate must have successfully completed programming courses, such as C++, Java or Python.

Training, Experience, Knowledge & Skills Required:

- Preference will be given to applicants with experience in E-CARGO, Role-Based Collaboration (RBC), and Group Role Assignment (GRA)
- Knowledge of basic programming is essential
- Knowledge of the scientific method and standard laboratory protocols would be assets
- High degree of diligence and accuracy in all tasks
- Good oral/written communication skills
- Good analytical and good problem-solving skills
- Ability to work independently or as part of a team

To be eligible for an NOHFC internship, candidates must:

- Be a new entrant into the workforce, transitioning to a new career, or unemployed/underemployed and entering a new field;
- Have not previously participated in an NOHFC-funded internship;
- Be at least 18 years of age; and
- Reside, and be legally entitled to work, in Canada.

Relationships/Contacts:

Supervised by: Dr. Haibin Zhu

Internal Contacts: Staff, students, faculty

Materials Utilized:

- Computers

Physical/Mental Demands & Working Conditions:

- Standing, sitting, walking
- Intense visual and mental concentration and manual dexterity.
- Typically, work will be conducted in the CoSys Lab.