



2020-02-14 Application ID: 78491

GLOBALINK RESEARCH INTERNSHIP AWARD DISBURSEMENT INFORMATION AND PLACEMENT TERMS AND CONDITIONS

Dear AYUSH KAUSHAL.

Congratulations! You have been selected by Mitacs and Ali Mesbah from University of British Columbia – Vancouver to receive a 2020 Globalink Research Internship award. You are therefore invited to participate in a research project at University of British Columbia - Vancouver. Pursuant to an agreement with University of British Columbia - Vancouver, Mitacs will administer your funding grant.

Mitacs Globalink Research Internship is a competitive program that pairs top-ranked international students with specific research expertise with faculty at Canadian academic institutions for a twelve (12) week research project of mutual interest in the period of May to October. You have been selected by your Canadian host faculty project leader due to your background and skills in the research area and the unique contribution you will be making to the research during your stay. The skills required for your role (as described in the research description below) were found to clearly match your skills set, education, and research experience.

Research Internship Details

University/Institution: University of British Columbia – Vancouver

Host Professor: Ali Mesbah

Research Project Title: Deep Learning for Bug Detection and Code Repair NOC Code: 4012 Post-secondary teaching and research assistants

Research Description: Identifying quality issues in software is a crucial but expensive task for developers to take on. To

> help developers identify quality issues, Automated Bug Detection (ABD) is widely used in practice. While existing ABD systems are useful, creating a bug detector is a time consuming and highly manual process. Bug detectors must be precisely specified to ensure low rates of false positives and upon identification of a bug, a repair action must be proposed to the developer. To address the high cost of developing static bug detectors, we propose a novel deep learning approach to building ABD systems that (1) automatically learns bug detector rules, and (2) generates patch suggestions using examples of correct and incorrect code mined from open

source projects.

During your stay, you will be: software development, design, experimentation, analysis, writing.

Duration of Research: 12 weeks - to begin between May 1 and July 31, 2020 (unless otherwise approved by Mitacs) and

> end no later than October 31, 2020. Shortened durations must be agreed upon with the Supervisor and Mitacs. Durations of more than twelve (12) weeks will not be permitted.

Hours of Work: Forty (40) hours per week. Your award covers the full twelve (12) week of your internship unless you fall short of the full twelve (12) weeks, in which case the award will be prorated according to time actually spent in Canada contributing to the internship project.

For immigration purposes, as a Globalink Research Internship award recipient entering Canada for 120 consecutive days or less, you may be eligible for a work permit exemption under the Global Skills Strategy. Upon arrival at the Port of Entry, you should have supporting documents, such as:

- a copy of this award letter in its entirety
- your valid passport and any other document required to enter Canada (see https://www.canada.ca/en/immigration-refugees-citizenship/services/visit-canada/entry-requirements-country.html)
- proof that you meet requirements of the job, such as proof of work experience and education
- request a visitor record from Canadian border officials upon arrival at a Port of Entry

We look forward to welcoming you as a temporary member of the research team at University of British Columbia – Vancouver.

Acknowledgements:

Mitacs Globalink gratefully acknowledges the financial support of the Government of British Columbia, the Government of Canada as well as our partner in India, the Shastri Indo-Canadian Institute (SICI).

Mitacs Globalink is delivered by Mitacs on behalf of the following Academic partners:

Acadia University Queen's University Université INRS Athabasca University Royal Military College of Canada Université Laval Bishop's University Royal Roads University University of Alberta **Brandon University** Ryerson University University of Calgary **Brock University** Saint Mary's University University of Guelph Cape Breton University Saint Paul University University of Lethbridge Carleton University Simon Fraser University University of Manitoba Concordia University St. Francis Xavier University University of New Brunswick

Concordia University of Edmonton TÉLUQ-Université du Québec University of Northern British Columbia

Dalhousie University The University of British Columbia Ontario Tech University École de Technologie Supérieure Thompson Rivers University University of Ottawa Emily Carr University of Art + Design Trinity Western University University of Saskatchewan **HEC Montréal** Université de Moncton University of Toronto Lakehead University Université de Montréal University of Victoria Laurentian University Université de Sherbrooke University of Waterloo McGill University Université du Québec à Chicoutimi University of Windsor Université du Québec à Montréal

Vancouver Island University Memorial University of Newfoundland Université du Québec à Rimouski Université du Québec à Trois-Rivières Mount Allison University Western University Wilfrid Laurier University Mount Saint Vincent University Université du Québec en Abitibi-Témiscamingue

OCAD University Université du Québec en Outaouais York University Polytechnique Montréal Trent University University of Regina

Sincerely, Ma

Petra Kukacka

McMaster University

Director, Program Operations

Enclosure::

Appendix A: Terms and Conditions

University of Winnipeg

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Please note that your funding is provided in accordance with Mitacs and the Shastri Indo-Canadian Institute (SICI).

Obligations of the Shastri Indo-Canadian Institute (SICI)

The Shastri Indo-Canadian Institute (SICI) will be responsible for providing \$3000 CA to cover the cost of the following expenses:

- 1. Airfare for your return flight from Canada to India by the most economical route;
- 2. Reimbursement of immigration permit application fees (as required to participate in the research internship); and
- 3. Insurance package including health, accident, and private liability insurance.

Any amount remaining after the above expenses will be provided to the student as stipend.

Obligations of Mitacs

a) Financial arrangements

Mitacs will be responsible for providing the following:

- 1. A living stipend of \$200 CA per week;
- 2. Ensure that you receive Canadian medical insurance;
- 3. A daily allowance of \$42 CA for housing, for the duration of your research internship; and
- 4. Provide a stipend of \$300 CA for any student fees charged by your Canadian host institution (Student fees above \$300 CA are the responsibility of the Globalink Research Intern);

Under Mitacs' funding policy, we are unable to provide you with any funds in advance of your internship start date and arrival in Canada. On arrival in Canada with a valid immigration permit, you will receive your first payment installment from Mitacs. Interns will be responsible for opening a Canadian bank account, following Mitacs' instructions, in order to receive funds once in Canada.

b) Local arrangements

You are responsible for finding and acquiring your accommodations for the duration of your stay, but Mitacs will provide support for your search should you require it.

Mitacs will assume responsibility for the following aspects of your local arrangements:

- 1. Provision of medical insurance to cover you for the duration of your research internship, either through participation in a mandatory health care insurance policy offered by your host institution, or an equivalent policy purchased by Mitacs on your behalf;
- 2. Professional skills workshops and/or industry and/or government meetings to enhance the experience of your research internship;
- 3. Provision of a Mitacs-approved Globalink Mentor for you to consult with about issues and questions that arise during your stay in Canada and act as your emergency contact; and
- 4. Other activities at the sole discretion of Mitacs.

Obligations of the Globalink Research Intern

1. Please be advised that, for immigration purposes, Mitacs is not your representative and cannot provide advice on immigration matters. Mitacs will provide you with information as obtained on public government websites to help guide you through the process on immigration, but Mitacs cannot guarantee positive immigration outcomes.

- 2. Interns are required to participate in the program for 3 months, working a total of 40 hours per week for their host professor on their research project, unless otherwise arranged with the Canadian faculty member and approved by Mitacs. If your internship length needs to be shortened, contact Mitacs at helpdesk@mitacs.ca.
- 3. As a key component of the Globalink program, Mitacs may offer program participants opportunities to engage in professional skills workshops, industry and government relations meetings, and other networking opportunities to supplement your research experience. Mitacs will, whenever possible, schedule meetings and workshops in such a way as to minimize the impact on your primary focus, that of contributing to the research project. You are encouraged to participate in such Mitacs-arranged meetings and workshops, and your host professor will be asked to support this component of the Globalink program. You are normally expected to dedicate 40 hours per week on your research project, and will need to make arrangements with your host professor regarding time away from your research project.
- 4. Interns are expected to complete a final survey administered by Mitacs to rate their experience of the program.
- 5. Interns are required to check with SICI regarding any conditions or actions involved with receiving SICI funding to participate in the program. Questions regarding SICI funding may be directed to Anju Taneja at anjut@sici.org.in.