# INSTRUCTIONS

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| --- |
| * Please make sure you are using the latest version of this form posted on  **https://www.mitacs.ca/en/programs/accelerate/proposal.** This link also provides an Accelerate Guide with detailed information onhow to write your proposal. * Please **do not modify, remove** text or instructions in each section/subsection **or reformat** this form in any way. A modified form will result in a delay in the internship evaluation process. * Send your draft proposal to your [Mitacs Business Development Representative](http://www.mitacs.ca/en/contact-us/business-development) **prior** to obtaining all signatures and submitting. * The proposal should be written and submitted **at least eight (8) weeks prior to the planned start date of the internship. For international travel, a minimum of 16 weeks lead time is required.** * The start date of the internship has to be **after** research approval and the **receipt** of the partner funds at Mitacs. * Partner funds can be sent directly to Mitacs in Canadian dollars prior to approval to expedite the process. * If applicable, proposals with a not-for-profit, hospital, or municipality as a partner organization must seek partner and project eligibility approval before proceeding. Please contact a [Mitacs Business Development Representative](http://www.mitacs.ca/en/contact-us/business-development) to discuss eligibility **BEFORE** submitting your application (see section 2.7). * If applicable, intern conflict of interest declarations must be received by Mitacs before submitting your application (see section 4.3.2). * If applicable, academic supervisor conflict of interest documentation must be submitted with your application (see section 4.1.1 for details). For more information, see Mitacs’s Conflict of Interest policy: <http://www.mitacs.ca/en/conflict-interest-policy>. * If you cannot see the items listed in the drop downs, please refer to Appendix C: Options and type the corresponding answer in the space provided. |

**Please note:** If required, your **Mitacs Business Development Representative** can assist you with:

* Identifying your Office of Research Services (ORS) or equivalent representative.
* Assessing the eligibility and completeness of the proposed research.

# APPLICATION CHECKLIST

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| --- |
| **A complete internship application package must include the following:**   * The proposal **completed and signed** by all parties in Word format   + *The Mitacs Accelerate Memorandum* (Section 7) with signatures must be submitted as a scanned PDF   + Appendix A - Accelerate Intern Consent Form signed * Intern(s) CV (Any format is allowed. A [CV template](https://www.mitacs.ca/sites/default/files/uploads/page/mitacs_accelerate_intern_cv_template_2018.doc) is available on the Mitacs website) * Lead Academic Supervisor's CV for each participating academic institution **only** for projects with **6+ IUs** (CCV as per Tri-Council or other CV format) * Accelerate budget and invoicing schedule (Excel spreadsheet) * Any supplementary documents (as applicable)   **If your application involves an Accelerate International component, please note:**   * You must complete Appendix B – *Accelerate International* in addition to this entire application * International Pre-Departure Form and Code of Conduct and Ethics form may be forwarded to Mitacs after submission of your application; however, funds cannot be released and the internship may not begin until Mitacs receives these forms * Indemnity Agreement (as applicable) \*Please contact your Business Development representative to find out whether this document is required. * Visit the [Accelerate International website](https://www.mitacs.ca/en/programs/accelerate/mitacs-accelerate-international) to determine if there is any additional required documentation for the country you intend to work with   \* **An incomplete application or a modified form will result in a delay in the proposal evaluation process.** |

**Mitacs Accelerate Proposal**

### Research Proposal Summary

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| * 1. **Title of project:** |  | | | |
| * 1. **Type of project:** Please indicate (x)   Select all that apply | (\_) Accelerate | | | |
| (x) Accelerate Fellowship | | | |
| (\_) Accelerate Entrepreneur | | | |
| (\_) Accelerate International (Please also complete Appendix B) | | | |
| * 1. **Number of Internship Units:** | 4 | | | |
| * 1. **Keywords to identify reviewers:** (5-10 specific keywords; 50% technically related, 50% discipline-related) | Machine learning, Natural Language Processing, Smart conversational agent, question and answer system | | | |
| * 1. **Academic discipline:** | Computer Science | |  | |
| * 1. **Project priority sectors:** | Finance and Insurance | Information & Communications Technology | | Technology |

* 1. **List of participants:**

|  |  |  |  |
| --- | --- | --- | --- |
| **Academic supervisor** | **Department** | **Academic institution** | **City and country location of academic institution** |
| Thang LE DINH, Ph.D, PMP | Marketing and Information systems | Université du Québec à Trois-Rivières | Trois-Rivières (Québec) G9A 5H7 CANADA |
|  |  |  |  |
| **Partner organization(s)** | **Contact name at partner organization** | City and country location of organization | **Partner legal status** |
| Desjardins Group | Wissem Maazoun | Quebec | For Profit Private Corporation |
|  |
|  |  |  | Select Legal Status |
|  |

* 1. **Proposed work plan for internship unit(s) (IU):**

Please summarize the work plan for the project by showing which intern will work when. Each IU corresponds to one 4-6-month internship. This table provides a high-level overview of the proposed research project and information about intern(s) to the reviewers. Please refer to the [**Accelerate Guide: Writing your proposal**](https://www.mitacs.ca/sites/default/files/uploads/page/guide_to_writing_your_proposal_2019.pdf)for assistance.

|  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Years** | | | | **Year 1** | | | | **Year 2** | | | |
| **Months** | | | | 1-3 | 4-6 | 7-9 | 10-12 | 1-3 | 4-6 | 7-9 | 10-12 |
| **Intern name** | **Degree program** | | **IU** |  | | | | | | | |
| Do Dung Vu | postdoc | | 1 |  |  |  |  |  |  |  |  |
| Do Dung Vu | postdoc | | 2 |  |  |  |  |  |  |  |  |
| Do Dung Vu | postdoc | | 3 |  |  |  |  |  |  |  |  |
| Do Dung Vu | postdoc | | 4 |  |  |  |  |  |  |  |  |
| **Total** | | | **4** |  |  |  |  |  |  |  |  |
| **Total project funding** | | **$120000** | |  |  |  |  |  |  |  |  |

### Description of Proposed Research

* 1. **Project title:**

Conversational agent as a smart service: a framework for Desjardins

* 1. **Research Abstract** (Approx. 200 words):

This project tackles the problem of automatically generating personalized support messages for a smart banking conversational service of Desjardins. The smart conversation service receives the user’s questions and then analyzes their requirements using machine learning algorithms. When the user’s questions are classified as being the demand, the system must give a personalized appropriate answer, hint, product, service, process to help them solve her problem. The system is powered by a database of questions, hints, answers, content of bank service, process, and user behaviors. The component analyzing, generating, and recommending user’s requirement, hints, product & service, respectively is called the “smart banking conversational service”. To this end, we propose an analysis user behaviors model capable of understanding users and recommending the meaningful financial solution, service for them. To make the agent more effectively for each user, we further propose a “cross product recommendation” model capable of analyzing users’ behavior, requirement, including questions, answers, hints, automatically from unstructured text, or interactively with customer assistance. In addition, we also investigate how the system may be capable of efficiently adapting its content and solving support strategies to individual customers.

* 1. **Background** and review of relevant prior work (minimum 500 words):

Dialogue systems are growing bigger in the world and in the currently, they are one of the hot topics in NLP and are highly demanded in industry and daily life. The market size of dialogue systems (chatbot) is projected go grow from 2.6 billion $ in 2021 to 9.4 billion $ by 20204 with the annual growth rate of 29.7% [[1]](#footnote-2) and 80% of businesses are expected to be equipped with chatbot automation by the end of 2021 [[2]](#footnote-3). Dialogue systems perform the interface between human and machine and serve the human problems as an assistant via conversation. Based on the applications, dialogue systems are commonly divided into two categories: Task-oriented dialogue systems and open-domain dialogue systems.

Task-oriented dialogue systems solve the specific problems in a certain domain such as booking system. Traditional task-oriented dialogue systems are organized by: Natural Language Understanding (NLU), Dialogue Management (DM), Natural Language Generator (NLG). Many state-of-the-art works designs for task-oriented dialogue systems to achieve better optimization performance [1][2][3][4][5]. The task-oriented dialogue system aims to accurately handle the user message. Therefore, the architecture of the system is presented in Figure 1. Module NLU converts the raw user message into semantic slots, tighter with classification of domain and user intention [6]. The NLU module manage three tasks: domain classification, intent detection, and slot filling. Domain classification and intent detection belong to the same category of tasks. Deep learning methods are proposed to solve the classification problems of dialogue domain and intent [7][8]. To solve the difficult of training a deep neural network for domain and intent prediction, Restricted Boltzmann Machine (RBM) and Deep Belief Network (DBNs) were applied [9]. To make it stronger, the works use RNN as utterance encoders and make prediction for intent and domain categories [10][11]. CNN was used to extract hierarchical text features for intent detection and illustrated the sequence classification [12]. Dialogue management has two sub module such as: Dialogue State Tracking (DST) and Dialogue Policy Learning (DPL). DST iteratively calibrates the dialogue states based on the current input and dialogue history. The DST contains all essential information to be conveyed in the respond [13]. DPL decides the next action of a dialogue agent based on the calibrated dialogue states from the DST. Supervised learning and reinforcement learning are main stream training methods for DPL [14]. With the prevalence of reinforcement learning method, more and more task-oriented dialogue systems user reinforcement learning to learn the policy [15][18]. The module Natural Language Generator (NLG) convert the selected dialogue actions into surface-level natural language, which is usually ultimate form of response. Deep learning methods were further applied to enhance the NLG performance. The language generation with fully data-driven without depending expert rules were argued at [16] based on RNNs to learn response generation with semantic constrains and grammar trees. Context-awareness is important in dialogue response generation because only depending on the dialogue action of the current turn may cause illogical response which was solved by using Context-Aware LSTM (CA-LSTM) at [17].

Graphical user interface, text, application

Description automatically generated

Figure 1: Dialogue System

Open-Domain Dialogue System aim to perform the conversation with users without the task and domain restriction [19] and are usually fully data-driven. Open-domain dialogue system are generally divided into three categories: generative systems, retrieval-based systems, and ensemble systems. Generative system applies sequence-to-sequence models to map the user message and dialogue history into a response sequence that may not appear in the training corpus. By contrast, retrieval-based systems try to find a pre-existing response from a certain response set [20]. Ensemble systems combine generative methods and retrieval-based methods in two ways: retrieved responses can be compares with generated responses to choose the best among them; generative models can also be used to refine the retrieved response [21][22]. Open-domain dialogue systems have many hot research and challenges such as: Context Awareness [21][23], Response Coherence [24], Response Diversity [25], Speaker Consistency and Personality-based Response [26], Empathetic Response [27], Conversation Topic [28], Knowledge-Grounded System [29]

* 1. **General objective** of the research project broken down into sub-objectives, activities, themes, or subprojects, as applicable:

Artificial Intelligence – or AI – has transformed the financial services industry global in recent decades such as data aggregation, security, authentication, products, and services. With the internet explosion, AI is applied to everywhere in the financial industry that not only shifting the way customers make purchasing decision, but also how to conduct business [30]. However, the customer loyalty considered as a key factor to survive and success in many banking services. In retail banking, customer loyalty influenced by perceptions of service quality and levels of customer satisfaction [31]. Understanding customer experience and evaluating customer journey overtime is critical for bank institutions in the current banking era. This approach will improve the service quality and level of customer satisfaction which named smart conversational banking services with two main objectives in multiple languages:

- **Knowledge Supporting and Explanation (Smart Dialogue System)**

**- Customer Journey Management System**

* 1. **Details of internships or subprojects:**

**For each intern or subproject, provide the following mandatory information:**

* + 1. **Name of intern.**

Do Dung Vu

* + 1. **Specific objectives of the internship or subproject**. Clearly state your [sub-] objectives so reviewers can assess if they are achievable.
* **Objective 1: Knowledge Supporting and Explanation (Smart Dialogue System)**

Graphical user interface, text, application, chat or text message

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Figure 2. Knowledge Supporting and Explanation

+ Translate the locale question to English

+ Recognize the attributes of user’s question

+ Process the relationship of these attributes

+ Query the Knowledge Base

+ Show the response to user

* **Objective 2 Customer Journey Management**

**A picture containing text

Description automatically generated**

**Figure 3. Customer Journey Management**

+ Analysis the User behavior (the user’s questions, considerations, time, location, etc.,) by recognizing user’s problems

+ Generate the relevance hints to help user verify his/her problem

+ Verify the problem with Consultant Specialist, support user to find the adorable solution

+ Predict and point out the potential problem based on different context

+ Help user understand his problem by recommending the best context and solution

* + 1. **Methodologies**. Provide enough detail so reviewers can determine if the proposed methodology is appropriate and sufficient to achieve the [sub-] objectives.

**Methodology for Objective 1:**

We propose a method to generate content for banking knowledge supporting and explanation. We introduce an attention mechanism and relevance mechanism to boost the banking knowledge and explanation. We gather the given banking domain text, documents, ontology, expertise experience from open data sources and not limited with the partners to build and train our models. To evaluate our method, we both automatic evaluation metrics to show that the generated content are close to human content consultant and manual annotations to evaluate the quality. Our goal is to generate diversified knowledge content for different banking domain and with various services. Given the unstructured data, and ontology, we utilize Knowledge Base, Dialogue Management, and Natural Language Processing to recognize, manage, and generate the relevance content for knowledge supporting and explanation.

**Methodology for Objective 2:**

We next present a brief overview of customer journey management systems which is heritage many technologies from the Objective 1. In this system, each user’s journey behavior in the interaction with the smart banking knowledge and explanation dataset will be gathered to evaluate and analysis. By analyzing the user’s journey behavior, a machine learning model will be proposed to predict the user’s problem. Each predicted problem will be marked as the relevance score which is customizable and dynamically altered in response to the user’s profile. By considering the user’s behavior and profile, the hint generator mechanism is proposed to engage user discuss more about his/her real problem. The system aims to manage the service delivery from the perspective of the customer, and to enhance the communication between organizational units responsible for the development, operation, and support of the banking service

* + 1. **Timeline**. We suggest using a Gantt chart to provide a timeline showing which task will be done when to achieve each objective.

|  |  |  |
| --- | --- | --- |
| Name | Start | Finish |
| Wring the Proposal | 09/14/2021 | 10/25/2021 |
| Review the Proposal | 10/19/2021 | 11/01/2021 |
| Knowledge Supporting and Explanation | | |
| Preparation process | 11/01/2021 | 02/01/2022 |
| Literature survey | 11/01/2021 | 11/18/2021 |
| Gathering relevance dataset | 11/19/2021 | 12/02/2021 |
| Dataset approval | 12/06/2021 | 12/07/2021 |
| System architecture design | 11/23/2021 | 01/03/2022 |
| Module design | 01/04/2022 | 01/17/2022 |
| Test unit strategy design | 01/18/2022 | 01/31/2022 |
| Kick off meeting | 02/01/2022 | 02/01/2022 |
| Users' question recognition | 02/01/2022 | 02/22/2022 |
| Machine Translator | 02/01/2022 | 08/09/2022 |
| Dialog Manager | 02/22/2022 | 04/05/2022 |
| Natural Language Procesing | 02/01/2022 | 07/19/2022 |
| Pattern Picker | 07/19/2022 | 07/26/2022 |
| Response Formatter | 07/26/2022 | 08/09/2022 |
| N-Relation Handler | 08/09/2022 | 08/25/2022 |
| Knowledge Base | 01/04/2022 | 04/04/2022 |
| Ontology | 01/04/2022 | 03/28/2022 |
| Experiment Running | 08/25/2022 | 09/05/2022 |
| Experiment Analysis | 09/22/2022 | 10/19/2022 |
| Documentation | 09/19/2022 | 09/30/2022 |
| Write Paper | 10/03/2022 | 10/12/2022 |
| Publishing paper | 11/17/2022 | 11/23/2022 |
| Present and transfer result to Dejardin | 12/28/2022 | 12/30/2022 |
| Upgrade system with the real dataset | 01/30/2023 | 02/08/2023 |
| Experience Testing | 04/24/2023 | 05/12/2023 |
| Problem recognizer based on user’s journey analysis and management | | |
| Preparation Process | 01/02/2023 | 05/08/2023 |
| Literature survey | 01/02/2023 | 01/11/2023 |
| Gathering the relevance dataset | 01/31/2023 | 02/02/2023 |
| System architecture design and intergation | 03/02/2023 | 03/22/2023 |
| Module design | 03/23/2023 | 03/29/2023 |
| Test unit strategy design | 04/21/2023 | 04/26/2023 |
| Kick off meeting | 05/05/2023 | 05/05/2023 |
| Classify Target Domain | 05/17/2023 | 05/23/2023 |
| Mutil-agent sytems | 05/08/2023 | 05/15/2023 |
| Conversational Behaviour System | 05/08/2023 | 05/22/2023 |
| Peer Behaviour Evaluator | 05/22/2023 | 05/25/2023 |
| User Problem Predictor | 05/05/2023 | 10/20/2023 |
| Generate Hint to obtain the user issue | 05/05/2023 | 05/12/2023 |
| Analysis user's history behaviour | 06/19/2023 | 06/30/2023 |
| Predict the problem | 09/01/2023 | 09/14/2023 |
| Experiment Analysis | 10/24/2023 | 10/31/2023 |
| Write Paper | 07/18/2023 | 07/21/2023 |
| Publishing paper | 10/31/2023 | 11/01/2023 |
| Present and transfer the result to Dejardin | 09/11/2023 | 09/12/2023 |
| Upgrade the system with the real dataset | 10/23/2023 | 10/24/2023 |
| Experience Testing | 11/07/2023 | 11/09/2023 |

* + 1. **Expected deliverables.** Each project requires the submission of a completed Mitacs Final Report and Mitacs survey at the end of the project**.** Please describe the additional expected deliverables of the project i.e. expected outcomes, results, documents (intern’s thesis, peer-reviewed journal, conference presentation).
* Literature review report, workshop
* Dialogue System, Customer Journey Management System, and Multiple Language Services: a platform of smart conversational banking service based on non-structured data which helps customer understand the concepts, banking processes, and adorable products
* Reports evaluating the models qualitatively: The technical report of evaluating the models qualitatively including comparison between our smart conversational banking service with the others.
* Reports evaluating the models quantitatively with regards to user tests: The experiment report and analysis of users’ feedback
* Peer-reviewed conference or journal publications detailing the proposed smart conversational banking service and their impact on customer w.r.t. the customer’s loyal, problem solving, customer’s interaction, customer’s service experience.
  + 1. **Benefit to the intern.**

At Desjardin, the intern has a chance to collaborate with established banking experts, employee, customers, and researchers in the finance industry under the professional working environment. Especially, the intern will work deeply in machine learning, deep learning, knowledge base, and ontology fields to build up a new smart conversational banking service. Moreover, he can access to relevant/approval datasets and high-performance computational resources. He researches and develops his models which are used in the real industrial products. The experimental framework for evaluating models is implemented by both Bank’s experts and the intern. He will create the ideas, analysis experiment, propose algorithms, research solutions for the new methodology of banking services.

* + 1. **Interaction**. Indicate the percentage (%) of time during the project that the intern will spend on-site at the partner location and at the academic institution(s). Research should be carried out equally (50%) in the premises of the partner and the academic institution(s).

1. % of partner interaction: \_75\_\_\_ % **+** % of academic interaction: \_25\_\_\_ % = 100%
2. If different, please include a **justification**. NOTE: Theminimum interaction at either site is 25% with a maximum of 75%.
   * 1. **Partner interaction.** 
        1. Provide a detailed description of the activities that will be performed on-site at the partner organization and the expected interaction with and supervision by employees of the partner organization. For **Accelerate Entrepreneur** applicants, please provide a detailed description of the activities that will be performed on-site at the pre-approved incubator, including the expected interaction with and supervision with incubator staff.

The intern will come to the partner organization four days per week and closely collaborate with members from the partner organization such as: interact with the expert, end-user, banking service, join the relevance internal training of banking services

* + - 1. Indicate the resources the partner organization will be providing to support the intern’s work at their premises. Include information about (1) space, (2) resources, and (3) expertise that will be provided by the organization to the intern. For **Accelerate Entrepreneur** applicants, please indicate the resources the pre-approved incubator will provide, including information about space, resources, and expertise.

The nature of working is providing, innovation, and productivity now require not only desk, chair, monitor, personal computer, but also printer and team building. Desjardin offers intern the high-performance computational resources and dataset under the it’s security policy. On the other hand, some experts will help the intern to understand the real products, services, and evaluate the output of research result.

* 1. **Relevance to the partner organization and to Canada**:  
     Describe (1) the partner’s proposed role in the project, (2) how the partner will benefit from participating, and (3) how the Canadian community will benefit from this research.

By considering this project, Desjardin wants to create a revolution and convenience solution which is the smart banking conversational service as: dialogue system, users’ journey management system, and multiple language services and interact with both end-users and experts. Customers are seeking for their problems while chatting with an intelligent agent, which adapts itself to the customer to fit with their personalized problems, considerations and help them to find the adorable solutions. From a customer’s perspective, the agent is interactive and personalized, which we know has a huge impact on consulting and closing deal with the customer. Based on the Banking Knowledge Base, the intelligent agent can help users a lot and approach the one-by-one (one user – one agent) scenario. This project will help, build, and evaluate the smart banking conversational service to improve the competition power, reduce the cost of experts, serve the more kind of customers without limit of language, time, and location.

* 1. Improve the competition and serve users better
  2. Users have a new evolution service, covid, remote area, …
  3. **Project economic orientation (for submissions with an NFP, hospital, or municipality as a partner organization ONLY):**Describe the economic or productivity orientation of the project. NOTE: if any partner listed in this proposal is a not-for-profit (NFP) organization, hospital, or municipality, please contact a [Mitacs Business Development representative](https://www.mitacs.ca/contact-us/business-development) to discuss its eligibility before proceeding with your proposal submission.
  4. **Relationship (if any) to past/other Mitacs projects:**    
     Describe whether or not the current project is related AND provide specifics about the relationship (e.g. not related because it refers to a different research area OR if related: provide information about what has been achieved in past projects and how the current application complements other submissions).

**Write the previous project**

* 1. **References:**

[1] Theune M (2003) Natural language generation for dialogue: system survey. Centre for Telematics and Information Technology, University of Twente

[2] Lemon O, Pietquin O (2007) Machine learning for spoken dialogue systems. In: Eighth Annual Conference of the International Speech Communication Association

[3] Mallios S, Bourbakis N (2016) A survey on human machine dialogue systems. In: 2016 7th international conference on information, intelligence, systems & applications (iisa), IEEE, pp 1–7

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[5] Santhanam S, Shaikh S (2019) A survey of natural language generation techniques with a focus on dialogue systems-past, present and future directions. arXiv preprint arXiv:190600500

[6] Li X, Chen YN, Li L, Gao J, Celikyilmaz A (2017b) End-to-end task-completion neural dialogue systems. arXiv preprint arXiv:170301008

[7] Deng L, Tur G, He X, Hakkani-Tur D (2012) Use of kernel deep convex networks and end-toend learning for spoken language understanding. In: 2012 IEEE Spoken Language Technology Workshop (SLT), IEEE, pp 210–215

[8] Tur G, Deng L, Hakkani-Tür D, He X (2012) Towards deeper understanding: Deep convex networks for semantic utterance classification. In: 2012 IEEE international conference on acoustics, speech and signal processing (ICASSP), IEEE, pp 5045–5048

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### 3. Declarations

**3.1 Will the proposed research be taking place outside of the lab or normal business environment?**

No

If yes, please complete the following section to indicate what (if any) impact there may be on the environment.

a. Main characteristics of the location (i.e. physical description and coordinates)

b. Principal activity(ies): for each activity, list the environmental elements affected

c. Are authorizations, permits, or licenses required to undertake any activity during the internship?

Yes\_\_\_ No\_\_\_ If yes, please list

Please note: Mitacs may request a copy of the report to ensure compliance.

**3.2**  **a.** **Does the proposed research involve living human participants whose data, or responses to interventions, stimuli, or questions by the researcher, are relevant to answering the research question?**

No

**b. Does the proposed research involve human biological materials, human embryos, fetuses, fetal tissue, reproductive materials, or stem cells\*\*?**

No

\*\* This applies to materials derived from living and deceased individuals.

If yes to either of the two questions above, the proposal must be approved by the participating academic institution’s Research Ethics Board\*, and a valid Ethics approval is required for the duration of the research project. Access to funding may be denied for projects that do not have Ethics approval.

Please note: Mitacs may request a copy of the report to ensure compliance.

**3.3 Does the proposed research involve animal subjects?**

**N**o

If yes, the proposal must be approved by the participating institution’s Animal Care Committee\*, and a valid approval from the committee is required for the duration of the research project.

Please note: Mitacs may request a copy of the report to ensure compliance.

**3.4 Does the proposed research involve the use of biohazards?**

No

If yes, the necessary review/report must be conducted in accordance with your academic institution’s policies\*, and a valid biohazards approval is required for the duration of the research project.

Please note: Mitacs may request a copy of the report to ensure compliance.

**3.5 Have any academic supervisors declared a Conflict of Interest (COI)\* as part of this application?**

No

If yes, please attach the appropriate documentation outlined in section 4.1.1

**3.6 Have any interns declared a Conflict of Interest (COI)\* as part of this application?**

No

If yes, please attach the signed conflict resolution letter.

*\* If you have any questions about the requirement for Research Ethics/Animal Care/Biohazards review or Conflict of Interest Policies at your institution, please contact your corresponding institution's research office.*

### 4. Participants

### If you are participating in Accelerate International, and your academic supervisor and/or partner organization is overseas, please complete Appendix B

**4.1. Lead academic supervisor in Canada:**

|  |  |
| --- | --- |
| Name: | Thang Le Dinh |
| Academic institution: | Université du Québec |
| Department: | Département [Marketing et systèmes](http://www.uqtr.ca/ecoledegestion) d'information |
| Address (at academic institution): | 351, boulevard des Forges, |
| City, province, postal code: | Trois-Rivières (Québec), G8Z 4M3 |
| Phone: | +1 819 376 5011, poste 3158 |
| Permanent email: | [thang.ledinh@uqtr.ca](mailto:thang.ledinh@uqtr.ca) |
| Alternative email: | dinhthang.le@gmail.com |
| Administrative or Departmental Assistant contact information  (if applicable): |  |

**4.1.1. Is the academic supervisor:**

1. An owner or a co-owner (including owning shares) of the partner organization: No
2. A relative of an owner or co-owner (including owning shares) or a relative of a participant in the day-to-day management of the partner organization: No
3. A current or former employee of and/or a participant in the day-to-day management of the partner organization: No
4. A relative of the intern and/or partner supervisors of the proposed project: No

**If yes** to any of the above, please provide a copy of your approved academic institution’s Conflict of Interest declaration, or other appropriate documentation such as a letter or email from your Dean, with your application. The documents must describe the nature of the conflict and the measures in place to manage the conflict. Generally, Mitacs will accept the mitigation measures put in place by your academic institution. However, when the conflict is considered significant, Mitacs may require that the academic institution appoint an independent administrator to hold the award and to be responsible for ensuring the best interests of the intern. In such cases, the independent administrator must be included as an applicant, and must submit a declaration that they will act in the best interests of the intern(s).

**For any additional academic co-supervisors in Canada, copy and paste Section 4.1. and 4.1.1 below:**

**4.2. Partner organization in Canada:**

|  |  |  |  |
| --- | --- | --- | --- |
| Legal name (REQUIRED): | Desjardin | | |
| Operating name (if different): |  | | |
| Contact name: |  | | |
| position: |  | | |
| Department: |  | | |
| Address: |  | | |
| City, Province, postal code: |  | | |
| Phone: |  | | |
| Email: |  | | |
| Website: |  | | |
| Partner size (number of employees): | Select No. employees |  | |
| Legal status: | Select Legal Status |  | |
| If Not-for-profit Canadian Corporation | Select NFP Type |  | |
| **NAICS Code** (First three digits)\*: |  | | |
| \* [Click here for a list of North American Industry Classification System codes.](https://www23.statcan.gc.ca/imdb/p3VD.pl?Function=getVD&TVD=1181553) | | | |
| Is this the **first time** the partner has collaborated with the academic institution? : | | Yes |  |

**For any additional partner organization in Canada copy and paste Section 4.2. below:**

Please note that the financial contribution of organizations with permanent establishments in Canada may be subject to any applicable Goods and Services Tax (GST), Harmonized Sales Tax (HST) and/or Quebec Sales Tax (QST) (collectively VAT).

**4.2.1 Invoicing Partner Contact**

Partner contributions must be received by Mitacs BEFORE any funds are awarded to the academic institution. **Costs can only be incurred after research approval of the proposal** and the **receipt** of the partner funds at Mitacs**.**

Please describe any applicable **invoicing requirements** (vendor setup, PO, etc.):

|  |  |
| --- | --- |
| Primary customer **billing** contact name: |  |
| Primary customer **billing** phone number: |  |
| Primary customer **billing** email address: |  |
| Customer **accounts payable** email address: |  |
| Partner organization wishes to be invoiced by term, annually, or in one payment: | Select invoicing schedule |
| Is there a PO required?: | No:  Yes (please provide the PO number): |
| Other invoicing instructions:  (additional billing contact names, email addresses, etc.) |  |

**Invoicing Partner address**:

|  |  |
| --- | --- |
| x | Address same as filled in Section 4.2. |
|  | Address same as filled in Appendix B (Section 4.2) |
|  | If invoicing address different than Section 4.2 or Appendix B (Section 4.2), please fill out the following: |

|  |  |
| --- | --- |
| Legal name: |  |
| Address: |  |
| City, country, postal code: |  |

Have these funds been leveraged against other federal or provincial programs? No

**If yes,** please provide details:

**4.2.2 Partner funds at academic institution. *IF APPLICABLE***

To be completed only if partner funds were sent as an exception to the academic institution**. If no** please proceed to section 4.3.

1. Is there a **research agreement** in place with the academic institution that governs the use of these partner funds?

Yes\_\_ No\_\_\_

**If yes** please speak with your BD representative, fill out the *addendum to research agreement* document, and submit that document with your completed application.

**If no** pleasecomplete the following:

1. ORS/UILO or equivalent agrees to send these funds to Mitacs: Yes\_\_\_ No\_\_\_

**If yes**, please provide:

|  |  |
| --- | --- |
| Academic institution account number: |  |

1. The partner agrees by signing this application that the funds can be forwarded: Yes\_\_\_ No\_\_\_

**If yes**, please provide:

|  |  |
| --- | --- |
| Name of the consenting partner representative: |  |

1. **Invoicing academic institution contact** to receive Mitacs invoice:

|  |  |
| --- | --- |
| Name: |  |
| Department: |  |
| Email: |  |

1. Is the GST or HST, and QST (if applicable) to be included with invoice to academic institution? Yes\_\_\_ No\_\_\_

**If no**, tax(es) will be invoiced directly to the industry partner.

**4.3. Intern(s) identified:**

**4.3.1. Intern #1 information *\* MANDATORY \****

|  |  |  |  |
| --- | --- | --- | --- |
| Name: | Vu Do Dung | | |
| Full-time diploma or degree program during internship:  (e.g. college, undergrad, Master’s, PhD, PDF, recent graduate) | PDF | | |
| Expected month/year of graduation: | 11 | | 2023 |
| If PDF, indicate month/year PhD received: | 11 | | 2021 |
| If recently graduated, indicate diploma/degree obtained: | PhD | | |
| If recently graduated, indicate month/year diploma or degree obtained | MM | | YYYY |
| Academic institution during internship: |  | | |
| Department: |  | | |
| Address at academic institution: |  | | |
| City, province, postal code: |  | | |
| Country: |  | | |
| Phone: |  | | |
| Permanent phone or cell phone |  | | |
| Permanent email: |  | | |
| Alternative email: |  | | |
| Citizenship: | **Foreign** | If Foreign, please indicate citizenship: Vietnam | |
| Gender: | **Male** |  | |
| *For internships with international travel only (please complete Appendix B in addition to the full application):* | | | |
| Will this intern conduct any internship units at a partner organization outside Canada? | No | | |
| OPTIONAL: If known, please indicate anticipated **travel** dates | Start Date: DD/MM/YYYY  End Date: DD/MM/YYYY | | |

**4.3.2. Conflict of interest. Is the intern:**

1. An owner or a co-owner (including owning shares) of the partner organization: No
2. A relative of an owner or co-owner (including owning shares) or a relative of a participant in the day-to-day management of the partner organization No
3. A current or former employee of and/or a participant in the day-to-day management of the partner organization:

No

1. A relative of the academic and/or partner supervisors of the proposed project: No

**If yes** to any of the above, please [click here](https://www.mitacs.ca/sites/default/files/resources/COI_Template_Intern_2019.docx) to complete the **Conflict of Interest Declaration** and send it to [accelerate@mitacs.ca](mailto:accelerate@mitacs.ca) **BEFORE** submitting your application.

**4.3.3. Demographic information.**

The following data is collected for Mitacs to help report on key demographic information. This data is not shared with any of the participants (including academic supervisors) on the project.

**Please indicate (x):**

|  |  |  |
| --- | --- | --- |
| Do you identify as an Indigenous person based upon your cultural and/or ancestral background? | | |
| Yes ( ) | No (x ) | Prefer not to answer ( ) |
| Do you identify as belonging to a visible minority group (other than an Indigenous one)? | | |
| Yes ( ) | No (x ) | Prefer not to answer ( ) |
| Do you identify as a person with a disability? | | |
| Yes ( ) | No ( x ) | Prefer not to answer ( ) |
| Do you identify as francophone? | | |
| Yes ( ) | No ( x ) | Prefer not to answer ( ) |
| Are you the first in your family to attend college or university? | | |
| Yes ( ) | No (x ) | Prefer not to answer ( ) |

**For any additional interns copy and paste Section 4.3. below:**

**4.4. Intern(s) to be determined (TBD):**

**TBD#1**

|  |  |
| --- | --- |
| Degree program during internship  (college/master’s/PhD/PDF): | PhD |
| Academic institution: |  |
| Department: |  |
| *For internships with international travel only (please complete Appendix B in addition to the full application):* | |
| Will this intern conduct any internship units at a partner organization outside their home country? | No |
| OPTIONAL: If known, please indicate anticipated **travel** dates | Start Date: DD/MM/YYYY  End Date: DD/MM/YYYY |

**For any additional TBD interns, copy and paste Section 4.4. below:**

### 5. Budget and Invoicing

All Accelerate projects are required to include a complete Accelerate Budget and the invoicing schedule on the Excel Budget spreadsheet template must be confirmed. Please refer to the [**Accelerate Guide: Writing your proposal**](https://www.mitacs.ca/sites/default/files/uploads/page/guide_to_writing_your_proposal_2019.pdf) for assistance.

### 6. Suggested Reviewers

* 1. **Reviewer’s comments.** Please select ONE of the following:

\_\_\_ We consent to receive reviewer’s comments in either official language (French or English).

\_x\_\_ We request to only receive reviewer’s comments in the language in which this proposal is submitted.

* 1. Please provide the names and contact information of at least **SIX (6)** **arms-length** reviewers.

An arms-length reviewer must:

* Be a recognized expert in the research topics and technical aspects covered by the proposal;
* NOT be from the same academic institution as the intern(s) or the academic supervisor(s); and
* NOT have had any collaboration with the intern(s) or the academic supervisor(s) or the partner(s) during the past five (5) years or planned for the near future.

Please note that suggested reviewers who qualify as arms-length are required for the review of your application.

**Reviewer 1:**

|  |  |
| --- | --- |
| Name: |  |
| Academic institution: |  |
| Department: |  |
| Email: |  |

**Reviewer 2:**

|  |  |
| --- | --- |
| Name: |  |
| Academic institution: |  |
| Department: |  |
| Email: |  |

**Reviewer 3:**

|  |  |
| --- | --- |
| Name: |  |
| Academic institution: |  |
| Department: |  |
| Email: |  |

**Reviewer 4:**

|  |  |
| --- | --- |
| Name: | Sylvie Ratté |
| Academic institution: | L'École de technologie supérieure |
| Department: | Software and IT engineering |
| Email: | [sylvie.ratte@etsmtl.ca](mailto:sylvie.ratte@etsmtl.ca) |

**Reviewer 5:**

|  |  |
| --- | --- |
| Name: | Luc Duong |
| Academic institution: | L'École de technologie supérieure |
| Department: | Software and IT engineering |
| Email: | [luc.duong@etsmtl.ca](mailto:luc.duong@etsmtl.ca) |

**Reviewer 6:**

|  |  |
| --- | --- |
| Name: | Won-Yong Shin |
| Academic institution: | Dankook University |
| Department: | Computer Science and Engineering |
| Email: | wyshin@dankook.ac.kr |

**Potential conflict of interest. *\*OPTIONAL\****

Please list reviewers you would prefer Mitacs not to contact.

|  |  |
| --- | --- |
| Name: |  |
| Academic institution / Research Group: |  |

|  |  |
| --- | --- |
| Name: |  |
| Academic institution / Research Group: |  |

### 7. Mitacs Accelerate Memorandum

The participants listed below confirm that the information presented accurately reflects their intention to apply to the Mitacs Accelerate program. The participants have also agreed to set in place an internship based upon the attached proposal. The participants acknowledge that they have read, understood and agreed to abide by and uphold the Project Responsibilities applicable to each of them, available for reference at <http://www.mitacs.ca/en/programs/accelerate/project-responsibilities> which include and are not limited to the following: It is understood that the partner organization contribution shall be provided to Mitacs Inc. in Canadian dollars prior to commencement of the internship; in the event that the sponsor organization funds are at the academic institution, the academic institution shall forward these funds to Mitacs. Upon research approval and the receipt of the partner funds at Mitacs, Mitacs shall forward the funds to the Canadian academic institution as a research grant to the Canadian supervising professor, and the internship stipend/salary will be paid to the student by the academic institution from the grant. Costs associated with this proposal as outlined in the budget can only be incurred after research approval of the proposal and the receipt of the partner funds at Mitacs.

Mitacs is unable to assume liability for any losses including—but not limited to—accidents, illness, travel, or other losses that may occur during the internship period. All undersigned parties agree that they are responsible for ensuring that they have appropriate insurance and meet any institutional policies regarding health, safety, and travel preparation requirements. All parties also agree that the intern will provide Mitacs with a final report and that all participants will complete an exit survey within one month of project completion.

*For projects involving international travel:* In acknowledging that international exposure can greatly enhance an intern’s learning and experience, Mitacs will approve international travel provided that participation does not impact the safety and security of the intern and meets the policies outlined by the home academic institution. By signing this memorandum, you are acknowledging that the home academic institution agrees to assist the intern in meeting all academic institution requirements pertaining to research abroad and that the intern understands that he/she is responsible for obtaining insurance appropriate for the travel destination. Participants in projects involving international travel acknowledge that additional project responsibilities apply to each of them, available for reference at [https://www.mitacs.ca/en/programs/accelerate/mitacs-accelerate-international](https://www.mitacs.ca/en/programs/accelerate/mitacs-accelerate-international" \t "_blank). Participants in projects involving international travel also acknowledge that the internship cannot begin and funds cannot be released until Mitacs receives the signed International Pre-Departure Form and Code of Conduct and Ethics forms.

All parties involved with Mitacs Accelerate are bound by the standard intellectual property (IP) terms of the academic institution where the intern is enrolled; except where intellectual property is covered by separate agreements to which the academic institution(s) and the sponsor organization are parties and that are active during the dates of the internship. By signing this memorandum, if you have separate agreements covering IP between you and the academic institution, you are acknowledging that you are bound by their specific terms and conditions. Otherwise, if you don’t have separate agreements, you are bound by the standard intellectual property terms of the academic institution, and by signing this memorandum you agree to the terms of the academic institution where the intern is enrolled. Institution-specific IP policies regarding Accelerate internships can be found at https://www.mitacs.ca/en/programs/accelerate/faq.

The participants also agree that Mitacs will post the title of the project, the public project overview, the name of the partner(s) organization(s), the name of the intern(s), the name of supervisor(s) and the involved academic institution on [www.mitacs.ca/en/projects](http://www.mitacs.ca/en/projects) and may be used by Mitacs to publicize Mitacs Accelerate. Mitacs Privacy Policy can be found at [www.mitacs.ca/en/privacy-policy.](https://www.mitacs.ca/node/20705)

Internship participants (intern, supervising professor, and partner) further agree to the following addendum(s):

Mitacs does not require, inspect, or enforce any additional terms as outlined by participants in the above addendum.

**7.1. Title of the Project:**

**Smart Banking Conversational Service**

**7.2. Public Project Overview:**

Using simplified language understandable to a layperson, provide a general, one-paragraph description of the proposed research project to be undertaken by the intern(s) as well as the expected benefit to the partner organization. **(100-150 words)**

This project solves the problem of serving users 24/7 for banking services with the intelligent agent. The agent gives hints, explanations to the users and then analyzes their problems, considerations using machine learning, deep learning algorithms. Based on the user product journey history, the system will give them the right hints and help them to find the adorable finance solution. Moreover, the system will interact with experts to verify, support, and generate the high productivity content.

### 7.3. Participant Signatures:

### Please sign, scan, and save in PDF format. Typed signatures will not be accepted.

**7.3.1. Intern:**

|  |  |  |
| --- | --- | --- |
| Name: | Vu Do Dung | |
| Department: |  | |
| Academic institution: |  | |
|  | *For interns participating in international travel:* The intern acknowledges that additional [Project Responsibilities](https://www.mitacs.ca/en/programs/accelerate/mitacs-accelerate-international) found at [www.mitacs.ca/en/programs/accelerate/mitacs-accelerate-international](http://www.mitacs.ca/en/programs/accelerate/mitacs-accelerate-international) apply to Accelerate International travel (as outlined in the Memorandum above) and agrees to abide by these additional program rules. The intern also acknowledges that they are aware of and agree to any IP agreements related to this project. | |
|  | *For interns participating in the Indigenous Pathways program:*  [] The intern self-identifies as an Indigenous person. | |
| Signature: |  | Date: |

**7.3.2. Academic supervisor in Canada:**

|  |  |  |
| --- | --- | --- |
| Name: | Le Dinh Thang | |
| Department: |  | |
| Academic institution: |  | |
| Signature: |  | Date: |

**7.3.3. Academic supervisor abroad (if applicable):**

|  |  |  |
| --- | --- | --- |
| Name: |  | |
| Department: |  | |
| Academic institution: |  | |
| Signature: |  | Date: |

**7.3.4. Partner organization in Canada (if applicable):**

|  |  |  |
| --- | --- | --- |
| Name: |  | |
| Department: |  | |
| Title/position: |  | |
| Organization: | Desjardin | |
| Total financial commitment: | 60000$ | |
|  | The partner organization commits to the funding contribution specified directly above and the payment schedules outlined in the attached *Accelerate Budget and Invoicing* schedule. These are key conditions of the application and by signing this proposal below, the partner organization agrees to these conditions. Please note that the financial contribution of organizations with permanent establishments in Canada may be subject to any applicable Goods and Services Tax (GST), Harmonized Sales Tax (HST) and/or Quebec Sales Tax (QST) (collectively VAT). | |
|  | *For partner organizations participating in the Indigenous Pathways program, check any that apply:*  [] The partner organization is a for-profit organization with self-identifying Indigenous persons who hold 50% or greater ownership shares  [] The partner organization is a not-for-profit organization with board membership consisting of 50% or greater self-identifying Indigenous persons  [] The partner organization is a not-for-profit organization whose core mandate includes Indigenous community impact or serving indigenous communities | |
| Signature: |  | Date: |

**7.3.5. Partner organization abroad (if applicable):**

|  |  |  |
| --- | --- | --- |
| Name: |  | |
| Department: |  | |
| Title/position: |  | |
| Organization: |  | |
| Financial commitment: | $ | |
|  | The partner organization commits to the funding contribution specified directly above and the payment schedules outlined in the attached *Accelerate Budget and Invoicing* schedule. These are key conditions of the application and by signing this proposal below, the partner organization agrees to these conditions. Please note that the financial contribution of organizations may be subject to applicable taxes. | |
| Signature: |  | Date: |

**7.3.6. Office of Research Services Representative or equivalent:**

|  |  |  |
| --- | --- | --- |
| Name: |  | |
| Title/position: |  | |
| Academic institution: |  | |
| Signature: |  | Date: |

**For any additional participants include corresponding details and signature line below:**

### Appendix A – Accelerate Intern Consent Form

**USE AND DISCLOSURE OF PERSONAL INFORMATION PROVIDED TO MITACS**

1. All personal information collected is subject to privacy legislation and Mitacs Privacy Policy for Program Participants. For a description of Mitacs’s commitment to protecting the personal information provided by program applicants, please see <http://www.mitacs.ca/en/privacy-policy>.
2. All the information supplied in this application will be made available to Mitacs staff responsible for managing the application, for activities including identifying appropriate peer reviewers, administering, and monitoring awards, compiling statistics, and evaluating the program.
3. Information supplied in this application will be made available to internal and/or external reviewers, being composed of experts recruited from the academic, public, and private sectors. All reviewers are required to commit to keep the application information confidential.
4. Contact information in this application may be used by Mitacs staff to contact you in future for:
   1. Invitations to be profiled in stories or news items, to speak at or attend events, to provide a spotlight story and/or blog post;
   2. Communications about opportunities for Mitacs alumni; and
   3. Research surveys for Mitacs alumni.

You will have the opportunity to unsubscribe from emails sent to you, once all commitments regarding the internship that is the subject of this application are complete.

1. Your name, academic institution and department, and the title of your project may be provided to the federal, provincial, and academic institution funders of the Accelerate program, to:
   1. Enable Mitacs to report on funding contract commitments; and
   2. Allow the funders to evaluate the program.

Additional information, such as passport numbers and dates of birth, may be provided to the international funders of the program (if applicable), for adjudication and reporting purposes.

1. Your name, contact information, and other personal information as required may be provided to the academic institution(s) participating in the internship to enable the academic institution(s) to manage the award, to sign off on the pre-departure form (if applicable), and for reporting purposes.

I, the undersigned, do hereby give CONSENT to the use and disclosure of the information contained in my application for the purposes described above.

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Intern name Signature Date

### Appendix B – Accelerate International

***If internship involves international travel, please complete the following:***

**B 1. Partner interaction (continued from section 2.5g)**

|  |  |
| --- | --- |
| Interaction % on-site at partner location in Canada | \_\_75\_\_ % |
| Interaction % on-site at partner location abroad | \_\_\_\_\_ % |
| Interaction % at academic institution in Canada | \_\_25\_\_ % |
| Interaction % at academic institution abroad | \_\_\_\_\_ % |
| TOTAL (must equal 100%) | 100% |

% of partner interaction: 75 % **+** % of academic interaction: 25 % = 100%

**B 1.1 Do any interns expect to spend more than twelve (12) consecutive months outside of their home country?** Yes

If yes, Mitacs may request additional information.

**B 2. Does this project create new international collaborations?** Yes

If no, please briefly describe nature of the existing international collaboration. Include a summary of the collaboration, duration of the collaboration, and any past exchange of personnel, etc.

**B.3. IP ownership**

Any intellectual property (IP) generated from an Accelerate International project is bound by the policies of the academic institution where the student/PDF is registered, whether in Canada or abroad, unless a separate intellectual property agreement has previously been successfully negotiated between the academic institution, the industry partner, and (if applicable) the student/PDF. Mitacs makes no claim to intellectual property.

**Do the academic institution(s), partner organization(s) and/or intern (if applicable) have a separate IP agreement(s) that will be active during the dates of the internship?**

**Yes\_\_\_ No\_x\_\_ In development \_\_\_\_**

Provide an outline of the terms of any existing or planned IP agreement(s) below. A copy of the signed IP agreement must also be provided to Mitacs before a funding decision will be made about the project. Also ensure that the benefit from the project for Canada is clearly described in Section 2.6.

**B 4. Additional participant information:**

**B 4.1 Academic supervisor abroad (if applicable):**

|  |  |
| --- | --- |
| Name: |  |
| Academic institution: |  |
| Department: |  |
| Address (at academic institution): |  |
| City, country: |  |
| Postal code: |  |
| Phone: |  |
| Permanent email: |  |
| Alternative email: |  |

**B 4.1.1 Is the academic supervisor:**

1. An owner or a co-owner (including owning shares) of the partner organization: Yes\_\_\_ No\_\_\_
2. A relative of an owner or co-owner (including owning shares) or a relative of a participant in the day-to-day management of the partner organization: Yes\_\_\_ No\_\_\_
3. An employee of and/or a participant in the day-to-day management of the partner organization: Yes\_\_\_ No\_\_\_
4. A relative of the intern and/or partner supervisors of the proposed project: Yes\_\_\_ No\_\_\_

**If yes** to any of the above, please provide a copy of your approved academic institution’s Conflict of Interest declaration, or other appropriate documentation such as a letter or email from your Dean, with your application. The documents must describe the nature of the conflict and the measures in place to manage the conflict. Generally, Mitacs will accept the mitigation measures put in place by your academic institution. However, when the conflict is considered significant, Mitacs may require that the academic institution appoint an independent administrator to hold the award and to be responsible for ensuring the best interests of the intern. In such cases, the independent administrator must be included as an applicant, and must submit a declaration that they will act in the best interests of the intern(s).

**B 4.2 Partner organization abroad (if applicable):**

|  |  |  |  |
| --- | --- | --- | --- |
| Legal name: |  | | |
| Operating name (if different): |  | | |
| Contact name: |  | | |
| Position: |  | | |
| Department: |  | | |
| Address: |  | | |
| City, postal code: |  | | |
| Country: |  | | |
| Does the organization have a permanent establishment in Canada? | Select yes/no | | |
| Phone: |  | | |
| Email: |  | | |
| Website: |  | | |
| Partner size (number of employees): | Select No. employees |  | |
| Legal status: | Select Legal Status |  | |
| **NAICS Code** (First three digits)\*: |  | | |
| \* [Click here for a list of North American Industry Classification System codes.](https://www23.statcan.gc.ca/imdb/p3VD.pl?Function=getVD&TVD=1181553) | | | |
| Is this the **first time** the partner has collaborated with the academic institution? : | | Select yes/no |  |

### Appendix C – Drop-down - Options

### Please delete if not applicable

Please refer to the drop-down of the section, and type the corresponding answer in the space provided.

**1.5. Academic discipline:**

* Business
* Computer Science
* Earth Sciences
* Engineering
* Life Sciences
* Mathematical
* Sciences Social Sciences, Arts & Humanities
* Physical Sciences

**1.6. Project priority sectors:**

|  |  |  |
| --- | --- | --- |
| * Advanced Manufacturing | * Entertainment and Media | * Natural Resources |
| * Aerospace | * Environmental Science and Technology | * New and Digital Media |
| * Agriculture and Food | * Finance and Insurance | * Ocean Tech |
| * Aquaculture and Fishing | * Forestry | * Oil and Gas |
| * Automotive | * Green/Alternative Energy | * Pharmaceuticals |
| * Biotechnology | * Health and Related Sciences and Technology | * Public Service, Policy, and Governance |
| * COVID-19 related Research and Solutions | * Indigenous Affairs | * Quantum Science |
| * Cannabis * Clean Technology | * Information and Communications Technology (ICT) | * Social Innovation |
| * Commercial Services | * Life Sciences (not health) | * Sustainability and the Environment |
| * Construction | * Manufacturing and Construction | * Technology |
| * Cyber Security | * Mining | * Tourism |
| * Education | * Nanotechnology | * Transportation (excluding aerospace) |
| * Energy and Utilities | * Natural Gas | * Water |
|  |  | * Other (please describe) |

**1.7. List of Participants:**

**Partner Legal Status:**

* For-profit Private Corporation
* Crown Corporation
* Not-for-profit Canadian Corporation
* Hospital
* Municipality

**4.2. Partner organization in Canada:**

**Partner size (No. employees):**

* 1 to 49
* 50 to 99
* 100 to 499
* 500 to 999
* 1,000 and higher

|  |  |
| --- | --- |
| **Legal status:** | **If NFP:** |
| * For-profit Canadian Private Corporation | * Charitable Organizations |
| * Crown Corporation | * Economic Development Organizations |
| * Not-for-profit Canadian Corporation | * Health Organizations |
| * Hospital | * Industry Associations |
| * Municipality | * Social Welfare Organizations * Other |
| **First time collaboration with academic institution?**   * yes * no |  |

**4.2.1 Invoicing partner contact**

**Partner organization wishes to be invoiced by internship unit or annually:**

* By term
* Annually
* One payment

**4.3** **Intern(s) identified:**

**4.3.1. Intern information:**

**Citizenship**:

* Canadian
* Canadian Permanent Resident
* Foreign

**Gender**

* Female
* Male
* Other gender identity

**Will this intern conduct any internship units at a partner organization outside Canada?**

* yes
* no

**4.4. TBD**

**Will this intern conduct any internship units at a partner organization outside their home country?**

* yes
* no

**B 4.2. Partner organization abroad (if applicable):**

**Does the organization have a permanent establishment in Canada?**

* yes
* no

**Partner size (No. employees):**

* 1 to 49
* 50 to 99
* 100 to 499
* 500 to 999
* 1,000 or higher

|  |  |
| --- | --- |
| **Legal status:** |  |
| * For-profit Private Corporation |  |
| * Crown Corporation   **First time collaboration with academic institution?**   * yes * no |  |

1. https://markets.businessinsider.com [↑](#footnote-ref-2)
2. https://outgrow.co [↑](#footnote-ref-3)