

INSTRUCTIONS

- Please make sure you are using the latest version of this form posted on **www.mitacs.ca/en/programs/accelerate/apply-now**
- Please do not modify or reformat this form in any way. A modified form will result in a delay in the internship evaluation process.
- Detailed information on how to write your proposal can be found [here](#).
- ~~Send your draft proposal to your Mitacs Business Development Representative **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.**~~
- The start date of the internship has to be **after** scientific approval and the **receipt** of the partner funds at Mitacs.
- Partner funds can be sent directly to Mitacs prior to approval to expedite the process or upon approval.
- ~~If applicable, proposals with a not-for-profit partner must seek partner and project eligibility approval before proceeding. Please submit a [pre-assessment](#) form **BEFORE** submitting your application (see section 2.7).~~
- ~~If applicable, [conflict of interest declarations](#) must be received by Mitacs **before** submitting your application (see section 4.1/4.3).~~
- If you cannot see the items listed in the drop downs, please refer to the Appendix A: Options and type the corresponding answer on the space provided.

Please note:

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

- Identifying your Office of Research Services (ORS) representative.
- Facilitating non-disclosure agreements or intellectual property arrangements.
- Assessing the eligibility and completeness of the proposed research.

APPLICATION CHECKLIST

A complete internship application package must include the following :

- The proposal application **completed and signed** by all parties. The memorandum (see Section 7) with signatures must be submitted as a scanned PDF file.
- List of six external experts, arms-length reviewers and their contact information
- Intern(s) CV (a [CV template](#) is available on the Mitacs website)
- Excel budget if this is an Accelerate cluster proposal
- Any supplementary documents (as applicable)

*** An incomplete application or a modified form will result in a delay in the internship evaluation process.**

For more information, contact a **Business Development representative**
(www.mitacs.ca/en/contact-us/business-development).

Mitacs Accelerate Proposal Application

1. Research Proposal Summary

1.1. Title of project:	Can the Application of AI Create Value in Supporting Key Business Functions Across Large Organizations?		
1.2. Type of project: Please indicate (x)	<input checked="" type="checkbox"/> Standard		
	<input type="checkbox"/> Cluster (minimum of 6 internships and 3 interns)		
1.3. Number of Internship units:	1		
1.4. Keywords to identify reviewers: (3-10 specific keywords; 50% technically related, 50% discipline-related)	AI, cost savings, IT infrastructure, outsourcing, machine learning, change management		
1.5. Academic discipline:	Computer Science		
1.6. Project priority sectors:	1st Priority Sector	2nd Priority Sector	3rd Priority Sector
	Please rank up to three top priority sector(s) of your project:	1	2
1.7. Project purpose: Please indicate (x) the advancement you want to achieve with this internship	<input type="checkbox"/> Creation of new materials, devices, or products		
	<input type="checkbox"/> Creation of new processes or services		
	<input type="checkbox"/> Improvement of existing materials, devices, or products		
	<input checked="" type="checkbox"/> Improvement of existing processes or services		

1.8. List of participants:

Supervisor(s)	Department	University	
Alexander Ferworn	Digital Media	Ryerson University	
Partner organization(s)	Contact name at partner organization	Province of organization	Partner Legal Status
Hewlett Packard Enterprise	John Doe	Ontario	For Profit Canadian Private Corporation
			Select Legal Status
			Select Legal Status

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

Please summarize the work plan by showing which intern will work on which objective and when. Do not provide any detail here; present them in Section 2 instead.

Intern Name	Degree	IU	Month																	
			2	4	6	8	10	12	14	16	18	20	22	24	26	28	30	32	34	36
Abraham Gesner	MDM																			

The paper will further consider IBM's in-house research on their cognitive technology system called IBM Watson. Watson is regarded as "the Siri for business" and an individual has the ability to ask it questions and give commands, referred to as 'document search'. Watson has cognitive abilities so that it can understand the nuances of each request, such as different accents and dialects. In exchange, Watson will provide individualized responses for the user based on his or her database preferences.

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

General objectives:

The general objective of this research is to study and assess the value created from the application of artificial intelligence in supporting key business functions, across large organizations, and to provide the partner company with a recommendation on whether or not to invest additional resources into intelligent assistants.

Sub- objectives:

To review the cost benefit and feasibility analysis will exemplify the monetary value created when organizations use IA technologies.

Activities:

- Research assess the value created from the application of artificial intelligence.
- Review the cost benefit.
- Arrange interviews.
- Provide strong analytics and recommendations with a detailed strategy for the company.
-

2.5. Details of internships or subprojects:

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

- a. **Abraham P. Gesner**
- b. **Specific objectives of the internship or subproject.** Discover the feasibility of replacing certain human operations at large organizations with AI systems.
- c. **Methodologies.** Feasibility analysis. Cost benefit analysis. IBM Watson.
- d. **Timeline.**
Month 1 - Study current mode of operation at partner organization. Conduct interviews. Review budgets and forecasts. Learn about existing infrastructure.
Month 2 - Research cost and complexity of implementation of AI system at partner organization. Compatibility with existing systems. Estimate learning curve and other resources.
Month 3 - Analyze findings, create graphs, charts, and reports. Provide findings to supervisor at partner organization for preliminary review. Make any adjustments.
Month 4 - Run simulations and discover insights. Record insights, analyze, and prepare reports. Share research at formal presentation with leaders from the partner organization.
- e. **Expected deliverables.** Report based on feasibility analysis and cost benefit analysis, including charts and tables. Executive Summary recommendation. Mitacs Final Report and Mitacs survey.
- f. **Benefits to Intern.** Study operations of large organizations and the multifold effects of changes due to implementation of new technology, as well as ways to identify opportunities for improving efficiencies and bottom line.
- g. **Interaction.** % of partner interaction: 50 % + % of academic interaction: 50 % = 100%

- h. **Justification.** of interaction (if applicable). N/A
- i. **Partner Interaction.** Interview of key stakeholders. Current mode of operation observation and analysis. Review AI capabilities and level of learning curve. Review of infrastructure needs and technical specifications. Effect of change to end user through focus groups, estimate acceptance level. Calculate financial burden using confidential financial data. Perform CBA.

2.6. Relevance to the partner organization and to Canada:

Following this research, the partner organization will receive a cost benefit analysis and a recommendation on whether or not it is feasible to replace certain existing business functions with AI assistants such as Watson, Siri, Cortana or Alexa.

2.7. Project economic orientation (if applicable):

Describe the economic or productivity orientation of the project, including the information submitted through the pre-assessment form. NOTE: if any partner listed in this proposal is an eligible not-for profit (NFP) organization, you must submit a pre-assessment form before proceeding with your proposal submission.

2.8. Relationship (if any) to past/other Mitacs Accelerate internships, Mitacs Elevate fellowships, or current applications in submission to any Mitacs program:

2.9. References:

3. Declarations

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

Yes___ No_x__

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 & 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 and include copies with your application.

3.2. Does the proposed research involve living human subjects (including conducting interviews) or human remains, cadavers, tissues, biological fluids, embryos, or fetuses?

Yes___ No_x__

If yes, the proposal must be approved by the participating University 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 ethical approval.

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

3.3. Does the proposed research involve animal subjects?

Yes___ No_x__

If **yes**, the proposal must be approved by the participating University 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. Is a biohazards review required?

Yes___ No_x__

If **yes**, the necessary review/report must be conducted in accordance with your university'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 participants declared a Conflict of Interest (COI) as part of this application?

Yes___ No_x__

If **yes**, please attach the signed conflict resolution letter.

3.6. How did the participants first hear about Mitacs?

Please mark with (x)

Notification from your university department or at the university (bulletin board posting, email communication, newsletter, university website)	<input type="checkbox"/>	From the university's graduate studies offices	<input type="checkbox"/>
From a representative at the sponsor company	<input type="checkbox"/>	From a professor at the university	<input checked="" type="checkbox"/>
Notification from Mitacs (e-mail newsletter, social media)	<input type="checkbox"/>	From a Mitacs representative	<input type="checkbox"/>
Other (please describe):			

4. Participants

Duplicate relevant section(s) as needed for multiple interns or supervisors.

4.1. Academic supervisor:

Name:	Alexander Ferworn
University:	Ryerson University
Department:	Digital Media
Address (at university):	350 Victoria Street
City, Province:	Toronto, ON
Postal code:	M5B 2K3
Phone:	
Email:	aferworn@ryerson.ca

4.1.1. Is the academic supervisor**:

An owner or a co-owner of the partner organization:

Yes___ No_x__

A relative of an owner or co-owner of the partner organization:

Yes___ No_x__

An employee of and/or a participant in the day-to-day management of the partner organization:

Yes___ No_x__

If yes to any of the above, please [click here](#) to complete the **Conflict of Interest Declaration** and send it to accelerate@mitacs.ca **BEFORE** submitting your application.

For any additional academic supervisors copy and paste Section 4.1. below:

4.2. Partner organization:

Legal name:	Hewlett Packard Enterprise
Operating name (if different):	
Contact name:	John Doe
Position:	VP IT
Department:	IT
Address:	5051 Spectrum Way
City, Province:	Mississauga
Postal code:	L4W 5G3
Phone:	905-111-2222
Email:	john.doe@hpe.com
Website:	www.hpe.com
Partner size (number of employees):	500+
Legal status:	For Profit Canadian Private Corporation

4.2.1. NAICS Code (First three digits): _51__

[Click here for a list of North American Industry Classification System codes.](#)

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

4.3. Intern(s) identified:

4.3.1. Intern #1 information

Name:	Abraham P. Gesner
Degree program during internship (masters/PhD/PDF):	Master of Digital Media
Expected year of graduation:	2017
If PDF, indicate mm/yy PhD received:	
University:	Ryerson University
Department:	Digital Media
Address at university:	350 Victoria Street
City, Province:	Toronto, ON
Postal code:	M5B 2K3
Phone:	416-979-5000
University email:	agesner@ryerson.ca
Alternate email:	
Citizenship:	Canadian
Gender:	Male

4.3.2. Conflict of interest. Is the intern:

An owner or a co-owner of the partner organization:

Yes___ No_x__

A relative of an owner or co-owner of the partner organization:

Yes___ No_x__

An employee of and/or a participant in the day-to-day management of the partner organization:

Yes___ No_x__

If **yes** to any of the above, please [click here](#) to complete the **Conflict of Interest Declaration** and send it to accelerate@mitacs.ca **BEFORE** submitting your application.

4.3.3. Demographic information. *OPTIONAL*

Please indicate (x) if you are:

Francophone:	<input type="checkbox"/>	A person with a disability:	<input type="checkbox"/>
Aboriginal:	<input type="checkbox"/>	First in your family to attend university:	<input type="checkbox"/>

Social Media: Please provide usernames if you wish to connect with Mitacs by social media:

LinkedIn:	
Twitter:	
Facebook:	

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 (Master's, PhD, PDF):	
University:	
Department:	

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

5. Funding, Budget and Invoicing

- For **Accelerate standard** projects, please complete sections 5.1 to 5.4.
- For **Accelerate cluster** projects involving a minimum of three (3) interns, at least six (6) four-month internship units, and a minimum of one (1) eligible partner, please complete section **5.3** and **5.4**.only AND the Accelerate Cluster Budget Excel spreadsheet.

5.1. Funding summary

For each four-month internship unit, the partner must contribute \$7,500* and Mitacs will match with \$7,500.

Source	Number of Internships	Amount (Number of internships* x \$7,500)
Total Mitacs contribution (\$7,500 per internship)	1	\$ 7,500
Total Partner contribution* (\$7,500 per internship)		\$ 7,500
Total project award (\$15,000 per internship)		\$ 15,000

* The partner's contribution is subject to tax.

5.2. Budget

For each four-month internship unit, the intern stipend must be a minimum of \$10,000 and the research costs must be a maximum of \$5,000.

5.2.1. Stipend expenses – details per internship unit (add extra table lines as needed)

Academic Supervisor Name	Intern Name	Estimated Start date (Month, Year)	Stipend Amount (min. \$10,000 per internship unit)
Alex Ferworn	Abraham Gesner	04/2017	\$ 10,000
			\$
Total Stipend (A):			\$ 10,000

5.2.2. Research costs, e.g. equipment, travel, conference (add extra table lines as needed).

Research Costs	Value
1. Simulation experiment	\$ 5,000
2.	\$
3.	\$

Total research costs (B) - which cannot exceed \$5,000 per internship unit:	\$ 5,000
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Total expenses [(A + B) = total project award]	\$ 15,000
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5.3. Additional resources

Please indicate if the partner will provide the intern with any of the following additional resources and indicate their estimated value:

Additional resources	Amount
Office supplies / stationery	\$ 100
Use of equipment or specialized equipment	\$
Access to relevant company material, personnel	\$ 2,000
Industrial partner supervision	\$
Other, please specify:	\$

5.4. Invoicing Partner funds

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

Invoicing contact name:	
Email:	

	Address same as filled in Section 4.2.
	If invoicing address different than Section 4.2, please fill out the following:
Legal name:	
Address:	
City, Province:	
Postal code:	
Phone:	
Email:	

Please note: Partner contributions must be received by Mitacs BEFORE any funds are awarded to the university. **Costs can only be incurred after scientific approval of the proposal and the receipt of the partner funds at Mitacs.**

Have these funds been leveraged against other federal or provincial programs?

Yes___ No_x__

If yes, please provide details:

5.4.1. Were partner funds sent, as an exception, to the university:

Yes___ No_x__ If yes please confirm that:

a) Is there a research agreement in place with the university that governs the use of these partner funds?

Yes___ No_x__

If yes please speak with your BD representative, fill out the confirmation of transfer of partner funds document, and submit that document with your completed application

b) ORS/UILO agrees to send these funds to Mitacs

Yes_x__ No___

University account number: _____

c) The partner agrees by signing this application that the funds can be forwarded

Yes_x__ No___

Name of the consenting partner representative _____

d) University contact to receive Mitacs invoice

Name: _____
Department: _____
Email: _____

e) Is the GST or HST, and QST (if applicable) to be included with invoice to university?

Yes___ No_x__

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

5.4.2. Payment options

Please select (x) the preferred payment option:

Full project payment: One invoice for full project contribution to be paid in full on receipt (x)

Installments: If you choose to be invoiced in installments, please note that an installment schedule will be created by Mitacs staff and up to three invoices per year will be sent to your attention 60 days before the start date of the first internship of the installment ()

- Invoices will be issued for a minimum of one internship unit (\$7,500 for an Accelerate Standard project OR \$6,000 for an Accelerate Cluster project) and must be paid in full, partial payments of invoices will not be accepted.
- The partner's contribution is subject to tax.

6. Suggested Reviewers

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 university 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 neglecting to suggest reviewers who qualify as arms-length will delay the review of your application.

Reviewer 1:

Name:	Anne Condon
University:	UBC
Department:	Computer Science
Email:	condon@cs.ubc.ca

Reviewer 2:

Name:	Michael Friedlander
University:	UBC
Department:	Computer Science-IBM Professor
Email:	jf@cs.ubc.ca

Reviewer 3:

Name:	Denis Hamelin
University:	Ryerson
Department:	Computer Science
Email:	dhamelin@ryerson.ca

Reviewer 4:

Name:	Eric Harley
University:	Ryerson
Department:	Computer Science
Email:	eharley@ryerson.ca

Reviewer 5:

Name:	Cherie Ding
University:	Ryerson
Department:	Computer Science
Email:	cherieding@ryerson.ca

Reviewer 6:

Name:	David Mason
University:	University of Toronto
Department:	Business Technology
Email:	david.mason@utoronto.ca

Potential competing interest. *OPTIONAL*

Include potential reviewers whom Mitacs should **not** contact due to a potential competing interest in the proposed research.

Name:	
University / Research Group:	

Name:	
University / 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. It is understood that the partner organization contribution shall be provided to Mitacs Inc. prior to commencement of the internship; in the event that the sponsor organization funds are at the university, the university shall forward these funds to Mitacs. Upon scientific approval, Mitacs shall forward the funds to the university as a research grant to the supervising professor, and the internship stipend will be paid to the student by the university from the grant. Costs associated with this proposal as outlined in the budget can only be incurred after scientific approval of the proposal.

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 university 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.

All parties involved with Mitacs Accelerate are bound by the standard intellectual property (IP) terms of the university where the intern is enrolled; except where intellectual property is covered by separate agreements to which the university and the sponsor organization are parties and that are active during the dates of the internship. By signing this memorandum, you are acknowledging that you agree to the terms of the university where the intern is enrolled. University-specific IP policies regarding Accelerate internships can be found at [Accelerate Policies and Procedures](#).

The participants listed below agree that Mitacs can disclose the provided personal information included in this proposal (e-mail, LinkedIn, Twitter, Facebook, etc.) to the program's funding partners and that Mitacs can use them for the purpose of communication and to evaluate the program and its outcomes during and after participants' program tenure. 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 university on 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.

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:

Can the Application of AI Create Value in Supporting Key Business Functions Across Large Organizations?

7.2. Public Project Overview:

Compare the cost of customer support, technical support, incident management, and such within a large organization to the cost of implementing, training, and maintaining an IBM Watson-like AI assistant to replace those functions. Is it feasible to replace certain key business functions with AI? Do the benefits outweigh the cost? This research finds answers to those questions, and makes a recommendation.

7.3. Participant Signatures:

Please sign, scan and save in PDF format

Intern:

Name:	Abraham P. Gesner	
Department:	Digital Media	
University:	Ryerson University	
Signature:	A P G	Date: 02/25/2017

Academic Supervisor:

Name:	Alexander Ferworn	
Department:	Digital Media	
University:	Ryerson Unviversity	
Signature:	A F	Date: 02/25/2017

Partner Organization:

Name:	John Doe	
Department:	IT	
Title/Position:	VP IT	
Organization:	Hewlett Packard Enterprise	
Signature:	J D	Date: 02/25/2017

University Office of Research Services Representative:

Name:		
Title/Position:		
University:		
Signature:		Date:

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

Appendix A

Please delete if not applicable

Drop Down - Options

Please refer to the drop down of the section, and type the corresponding answer on 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:

- | | | |
|--------------------------|--|--|
| - Aboriginal Affairs | - Entertainment & Media | - Natural Resources |
| - Advanced Manufacturing | - Environmental Science & Technology | - New & Digital Media |
| - Aerospace | - Finance & Insurance | - Ocean Tech |
| - Agriculture & Food | - Forestry | - Oil & Gas |
| - Aquaculture & Fishing | - Green/Alternative Energy | - Pharmaceuticals |
| - Automotive | - Health and Related Sciences & Technology | - Public Service, Policy, & Governance |
| - Biotechnology | - Information & Communications Technology | - Sustainability & the Environment |
| - Clean Technology | - Life Sciences (not health) | - Technology |
| - Commercial Services | - Manufacturing & Construction | - Tourism |
| - Construction | - Mining | - Transportation |
| - Education | - Nanotechnology | - Water |
| - Energy & Utilities | - Natural Gas | - Other (please describe) |

1.8. List of Participants:

Partner Legal Status:

- For Profit Canadian Private Corporation
- Crown Corporation
- Not for Profit Canadian Corporation

4.2. Partner organization:

Partner size (No. employees):

- 1 to 49
- 50 to 99
- 100 to 499
- 500 and higher

Legal status:

- For Profit Canadian Private Corporation

- Crown Corporation
- Not for Profit Canadian Corporation

4.3. Intern(s) identified:

4.3.1. Citizenship:

- Canadian:
- Permanent Resident:
- Foreign:

Gender

- Female
- Male