

THE CHATBOT CHALLENGE

INTRODUCTION

The *FinTech Chatbot Challenge* is a collaboration between the Digital Finance Institute (DFI) and the University of Toronto. UofT students have the opportunity to create a chatbot solution for DFI that will provide automated answers to financial questions posed by visitors to the DFI website (<https://www.digitalfinanceinstitute.org/>). The challenge will involve a series of stages, including an in-class design project, development work-term and presentation.

THE DIGITAL FINANCE INSTITUTE

The Digital Finance Institute (DFI) plays a pivotal role in supporting and promoting innovation in Canada, especially in FinTech and in that role, it is often asked about capital raising, funding, identity of start-ups, universities, key events, government grants, AI companies, where the tech talent lies, incubators, banks, mentorships, etc. The DFI is also asked often to bridge gaps between academia, government, tech companies and investors, foreign and domestic.

There is no one-source of reliable independent information about the FinTech ecosystem in Canada or one stop for making connections that are key to scaling a start-up in Canada – a problem that many stakeholders identified as early as 2016 in the DFI's FinTech White Paper. In collaboration with UofT, DFI wishes to create a chatbot for FinTech Canada that serves as a constantly growing information source regarding FinTech that serves the needs of everyone in the ecosystem.

Through this initiative, students will have the chance to learn and solve issues that the commercial world faces, while business leaders will obtain a chance to look at differing solutions to their pragmatic problems from emerging tech talents.

Purpose

In the past few recent years, financial technology has been one of main synergies strengthening and contributing to the national business and technology innovations in Canada. Despite of the national popularity in FinTech business, there is no single go-to source of reliable independent information about the FinTech ecosystem in the country or one-stop for making connections that are key to scaling a start-up in Canada. This has been an issue that many stakeholders have identified as early as 2016, as concluded in the Digital Finance Institute (DFI)'s FinTech White Paper.

In order to fulfill the emerging demand by the ecosystem to drive innovation and support the growth of Canadian innovation, the DFI is collaborating with the University of Toronto to build a chatbot solution that will provide automated answers to questions about FinTech, AI, innovation, investment and Canada.

Nature of the Project

Audience

The users will be government, NGOs, academia, investors, startups, tech firms and investment firms but also open to academia, government agencies, services firms such as legal, consulting, accounting and marketing firms, and importantly, foreign countries that are interested in investing in Canada.

Technology

Frontend

The users will gain the best UX if the solution is simple and easy-to-use. A solution that is able to minimize UX and UI complications will be ideal. This can be similar to the Google search bar, in which the users simply type in their questions or keywords and they will instantly get corresponding answers. It will be on its own website for the project. The frontend website and the app will need to connect to the backend chatbot technology and the corpus. The DFI will create this website for integration.

Backend

In the Phase 1 Design, students will evaluate different software programs such as IBM Watson to determine what works best for the project. Ideally, the solution will be equipped with a program that can learn and adopt the needs of the users the more it is being employed and which integrates with the customer facing app on website.

Testing

We envision two types of testers. Technical testers will be from U of T and they will test the functioning and operational capabilities of the underlying coding and tech. The second type will test the responses from the corpus (the content) and we imagine that these testers will be from industry and will be eventual users. During the Phases 1 and 3, they will experience the project and provide feedbacks. The factors that will be taken consideration during the testing periods are:

- Simplicity (User Experience);
- Interaction Level; and
- Responsiveness of Results, etc.

The Corpus

The DFI will create the corpus and will provide the questions and answers, beginning with a small set.

Examples of Corpus:

What is FinTech?

What is AI?

What are the three top cities for FinTech in Canada?

What are the leading innovative incubators?

What is a sandbox?

What is DSCIL?

Does Canada have grants for technology companies?

Does Canada have funding for women in business?

How does Ontario help startups export to new markets?

What is Canada's leading city for AI?

Who are the top women in FinTech in Canada?

What are the top cities to launch a tech startup?

How does Toronto rank as an innovation center?

What are the tax advantages of starting a company in Canada?

How can I immigrate to Canada?

Advisors

We are contemplating having a series of advisors. The first upper level set of advisors will be organizations that assist providing accurate answers for the corpus. We anticipate these advisors to include Canada, Ontario, the City of Toronto, the City of Montreal, the City of Vancouver, banks, tech companies and thought leaders. The next level will be our testers who include stakeholders and potential users of the finished chatbot product. Third, these should be technical advisors who test the technology itself. The DFI will pursue the advisors with U of T.

TIMELINE

Pre-Project: development of objectives, project scope, budget and other resourcing.

Completion : mid-May

Phase One: in-Class

Under the guidance of professor Abbas Attarwala, UTSC Computer Science students will work on solutions to the chatbot challenge for their group project.

Phase 1.1 Design

- Week of May `13: Introduction of project to students (Mario and Bill)
- Week of May 20: DFI to visit UTSC to answer questions from students
- Week of June 3: Final project designs presented to prof Attarwala

Phase 1.2 Development and Testing

A series of sprints throughout the month that include code development and testing

- July DFI to visit UTSC to answer questions from students (date TBD)
- Week of July 29: final projects submitted to prof Attarwala

August 1: Code freeze (no new development)

Aug 2-5: Cross testing of solutions by teams

Aug 6: In-class video-based demos (DFI to attend if possible)

Aug 7-9: One-on-one demos to professor and TAs

Phase Two: Presentation of Winning Design(s) at DFI Event

August 14, 2019 or August 15, 2019

Phase Three: Final Development of Chatbot Solution

August-October, 2019

Either CMS co-op student or some other paid initiative (such as work-study, CMS or MTA association) will take the in-class designs and code and test the system and ensure ready for operation. DFI and UofT mentors will advise on various aspects of the project, including use (and purchase) of tools, frameworks, and system requirements.

Phase Four: Completion of System and Presentation at DFI Event

November 18, 2019