Algorithmic Impact Assessment Results

Name of Respondent

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Job Title

Senior Program Advisor - A&CS

Department

Employment and Social Development (Department of)
Branch

TISMB

Project Title

ROE Comments Assessment using Artificial Intelligence

Project Phase

Implementation
[Points: 0]
Please provide a project description:

The Chief Data Office (CDO), Employment Insurance (EI) Benefits Delivery Services (BDS) and Innovation, Information and Technology Branch (IITB) are developing and implementing an artificial intelligence (AI)/machine learning solution that will interpret and assess free text comments captured by employers when records of employment (ROE) are issued. Based on very specific business rules, the AI will assess and predict simple actions (i.e. save or ignore comments, predict a different Reason for Separation [RFS]). The actions taken following an AI prediction will be saved within the internal interpretative notes used in the process of calculating EI claims. The original document (Record of Employment [ROE]) will not be modified.

What is motivating your team to introduce automation into this decision-making process? (Check all that apply)

Lower transaction costs of an existing program
Use innovative approaches
Please check which of the following capabilities apply to your system.

Text and speech analysis: Analyzing large data sets to recognize, process, and tag text, speech, voice, and make recommendations based on the tagging
Process optimization and workflow automation: Analyzing large data sets to identify and anomalies, cluster patterns, predict outcomes or ways to optimize; and automate specific workflows
Impact Level: 2
Current Score: 41
Raw Impact Score: 41
Mitigation Score: 30

Requirements Specific to Impact Level: 2

Peer Review

At least one of:Qualified expert from a federal, provincial,territorial or municipal government institutionQualified members of faculty of a post - secondary institutionQualified researchers from a relevant non - governmental organizationContracted third - party vendor with a related specializationPublishing specifications of the Automated Decision System in a peer - reviewed journalA data and automation advisory board specified by Treasury Board Secretariat

Notice

Plain language notice posted on the program or service website.

Human-in-the-loop for decisions

Decisions may be rendered without direct human involvement.

Explanation Requirement

In addition to any applicable legislative requirement, ensuring that a meaningful explanation is provided upon request for any decision that resulted in the denial of a benefit, a service, or other regulatory action.

Testing

Before going into production, develop the appropriate processes to ensure that training data is tested for unintended data biases and other factors that may unfairly impact the outcomes.Ensure that data being used by the Automated Decision System is routinely tested to ensure that it is still relevant, accurate, and up-to-date.

Monitoring

Monitor the outcomes of Automated Decision Systems on an ongoing basis to safeguard against unintentional outcomes and to ensure compliance with institutional and program legislation, as well as this Directive.

Training

Documentation on the design and functionality of the system.

Contingency Planning

None

Approval for the system to operate

None

Link to the Directive on Automated Decision-Making Impact Level Requirements

Mitigation Measures

The following internal stakeholders have been consulted:
Other (describe)
Please describe
Strategic and Service Policy Branch, Chief Data Ofcer (CDO), Data Science Division, Innovation, Information and Technology Branch (IITB), ROE Suite development, Data Analytics Services, IT Security, Testing Services, AI Centre of Expertise

A documented process is currently in place to test datasets against biases and other unexpected outcomes.

Accountabilities for the design, development, maintenance, and improvements for the system have been assigned.

A process has been developed to manage any risks of having outdated or unreliable data that could be used in the system.

This information is now publicly available.

The system records all the recommendations or decisions made by the system.

All key decision points are identifiable in the audit trail.

All key decisions points are linked to the relevant legislation, policy or procedure.

A change log has been developed to detail all of the changes made to the model and to the system.

The system's audit trail indicates all of the decision points made by the system.

The system's audit trail can be used to help generate a notification of the decision (including a statement of reasons or other notifications) where required.

The audit trail identifies which version of the system was used for each decision.

The system's audit trail shows who the authorized decision-makers are.

There is a process in place to grant, monitor, and revoke access permission to the system.

There is a mechanism to capture feedback by users of the systems.

There is a recourse process in place for clients that wish to challenge the decision.

The system enables human override of system decisions.

There is a process in place to log instances when overrides were performed.

The system's audit trail includes change control processes to record modifications to the system's operation or performance.

Questions and Answers

Impact Questions and Answers

Is the project within an area of intense public scrutiny (e.g. because of privacy concerns) and/or frequent litigation?

Yes
[Points: +3]
Are clients in this line of business particularly vulnerable?
No
[Points: +0]
Are stakes of the decisions very high?

No
[Points: +0]
Will this project have major impacts on staff, either in terms of their numbers or their roles?

No
[Points: +0]
Will you require new policy authority for this project?

No
[Points: +0]
The algorithm used will be a (trade) secret

No
[Points: +0]
The algorithmic process will be difficult to interpret or to explain

Yes
[Points: +3]
Does the decision pertain to any of the categories below (check all that apply):

Social assistance (ei, disability claims, etc)
[Points: +1]
Will the system only be used to assist a decision-maker?

No
[Points: +0]
Will the system be replacing a decision that would otherwise be made by a human?

Yes
[Points: +3]
Will the system be replacing human decisions that require judgement or discretion?

Yes
[Points: +4]
Please describe the decision(s) that will be automated

The first version of the model will only assess comments related to simple decisions, which are based on current procedures used by agents. Due to the simplicity of these decisions, the AI will only replace a percentage of these decisions.When the AI interpretation is used in a decision, it will replace a decision currently made by a human that requires minimal judgement and/or discretion. However, a portion of the decision (can't be assessed by AI or more complex decisions) will continue to be made by humans.

Is the system used by a different part of the organization than the ones who developed it?

Yes
[Points: +4]
Are the impacts resulting from the decision reversible?

Reversible
[Points: +1]
How long will impacts from the decision last?

Some impacts may last a matter of months, but some lingering impacts may last longer
[Points: +2]
Please describe why the impacts resulting from the decision are as per selected option above.

Information received on a ROE can normally be used on a EI claim for a period of one (1) year, excluding certain exceptions where the period is extended and possible appeals.

The impacts that the decision will have on the rights or freedoms of individuals will likely be:

Little to no impact
[Points: +1]
Please describe why the impacts resulting from the decision are (as per selected option above).

As the prediction made by the AI is used in support of a larger eligibility decisions, and is reversible, the impacts resulting from the decisions have little to no impact on the rights or freedom of the individual applying for EI benefits.

The impacts that the decision will have on the health and well-being of individuals will likely be:

Little to no impact
[Points: +1]
Please describe why the impacts resulting from the decision are (as per selected option above)

The AI decision has no relation, hence no impacts, to the health and well-being of individuals

The impacts that the decision will have on the economic interests of individuals will likely be:

Little to no impact
[Points: +1]
Please describe why the impacts resulting from the decision are (as per selected option above)

As it is completely reversible, the AI decision may only result in minor impacts to the speed at which the claim can be processed if additional verification is required on a specific decision made. In the vast majority of cases, the processing speed will be increased.

The impacts that the decision will have on the ongoing sustainability of an environmental ecosystem, will likely be:

Little to no impact
[Points: +1]
Please describe why the impacts resulting from the decision are (as per selected option above)

The decision will have very little impacts, if any, on the sustainability of an environmental ecosystem

Will the Automated Decision System use personal information as input data?

Yes
[Points: +4]
What is the highest security classification of the input data used by the system? (Select one)

Protected B / Protected C
[Points: +3]
Who controls the data?

Federal government
[Points: +1]
Will the system use data from multiple different sources?

No
[Points: +0]
Will the system require input data from an Internet- or telephony-connected device? (e.g. Internet of Things, sensor)

No
[Points: +0]
Will the system interface with other IT systems?

Yes
[Points: +4]
Who collected the data used for training the system?

Your institution
[Points: +1]
Who collected the input data used by the system?

Your institution
[Points: +1]
Will the system require the analysis of unstructured data to render a recommendation or a decision?

Yes
[Points: 0]
What types of unstructured data? (Check all that apply)

Audio and text files
[Points: +2]

Mitigation Questions and Answers

Internal Stakeholders (Strategic policy and planning, Data Governance, Program Policy, etc.)

Yes
[Points: +1]
External Stakeholders (Civil Society, Academia, Industry, etc.)

No
[Points: +0]
Do you have documented processes in place to test datasets against biases and other unexpected outcomes? This could include experience in applying frameworks, methods,

guidelines or other assessment tools.

Yes
[Points: +2]
Is this information publicly available?

No
[Points: +0]
Have you developed a process to document how data quality issues were resolved during the design process?

No
[Points: +0]
Is this information publicly available?

No
[Points: +0]
Have you undertaken a Gender Based Analysis Plus of the data?

No
[Points: +0]
Is this information publicly available?

No
[Points: +0]
Have you assigned accountability in your institution for the design, development, maintenance, and improvement of the system?

Yes
[Points: +2]
Do you have a documented process to manage the risk that outdated or unreliable data is used to make an automated decision?

Yes
[Points: +2]
Is this information publicly available?

Yes
[Points: +1]
Is the data used for this system posted on the Open Government Portal?

No
[Points: +0]
Does the audit trail identify the authority or delegated authority identified in legislation?

No
[Points: +0]
Does the system provide an audit trail that records all the recommendations or decisions made by the system?

Yes
[Points: +2]
Are all key decision points identifiable in audit trail?

Yes
[Points: +2]

Are all key decision points within the automated system's logic linked to the relevant legislation, policy or procedures?

Yes
[Points: +1]

Do you maintain a current and up to date log detailing all of the changes made to the model and the system?

Yes
[Points: +2]

Does the system's audit trail indicate all of decision points made by the system?

Yes
[Points: +1]

Can the audit trail generated by the system be used to help generate a notification of the decision (including a statement of reasons or other notifications) where required?

Yes
[Points: +1]

Does the audit trail identify precisely which version of the system was used for each decision it supports?

Yes
[Points: +2]

Does the audit trail show who an authorized decision-maker is?

Yes
[Points: +1]

Is the system able to produce reasons for its decisions or recommendations when required?

No
[Points: +0]

Is there a process in place to grant, monitor, and revoke access permission to the system?

Yes
[Points: +1]

Is there a mechanism to capture feedback by users of the system?

Yes
[Points: +1]

Is there a recourse process established for clients that wish to challenge the decision?

Yes
[Points: +2]

Does the system enable human override of system decisions?

Yes
[Points: +2]

Is there a process in place to log the instances when overrides were performed?

Yes
[Points: +1]

Does the system's audit trail include change control processes to record modifications to the system's operation or performance?

Yes
[Points: +2]
Have you prepared a concept case to the Government of Canada Enterprise Architecture Review Board?

No
[Points: +0]
Have you completed a Privacy Impact Assessment or revised an existing one?

Yes
[Points: +1]
Does your system reflect Privacy by Design principles?

No
[Points: +0]