Algorithmic Impact Assessment Results

Version: 0.9

Name of Respondent

Gauri Sharma

Job Title

CoFounder

Department
Health (Department of)

Branch

NA

Project Title

TriageAssist

Project ID from IT Plan

NA

Departmental Program (from Department Results Framework)

NA

Project Phase
Implementation [Points: 0]

Please provide a project description:

TriageAssist is an algorithm to determine if a patient in ER has heart disease or not. It is trained on a dataset that contains the patient's medical and personal information. It can be used by nurses and doctors to determine if a new patient in the ER is classified as a patient with heart disease and can further use it to make treatment decisions for the patient. ER staff can spend more time diagnosing and making treatment decisions if a patient has been classified as having heart disease. Otherwise, they can move ahead and speed up the process.

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

The system is performing tasks that humans could not accomplish in a reasonable period of time
Existing backlog of work or cases
Please check which of the following capabilities apply to your system.

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
Content generation: Analyzing large data sets to categorize, process, triage, personalize, and serve specific content for specific contexts
Risk assessment: Analyzing very large data sets to identify patterns and recommend courses of action and in some cases trigger specific actions

Section 1: Impact Level : 2

Current Score: 53

Raw Impact Score: 53

Mitigation Score: 27

Section 2: Requirements Specific to Impact Level 2

Peer Review

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

Notice

Plain language notice posted through all service delivery channels in use (Internet, in person, mail or telephone).

Human-in-the-loop for decisions

Decisions may be rendered without direct human involvement.

Explanation Requirement

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

Training

Documentation on the design and functionality of the system.

Contingency Planning

None

Approval for the system to operate

None

Other Requirements

The Directive on Automated Decision-Making also includes other requirements that must be met for all impact levels.

Link to the Directive on Automated Decision-Making

Contact your institution's ATIP office to discuss the requirement for a Privacy Impact Assessment as per the Directive on Privacy Impact Assessment.

Section 3: Questions and Answers

Section 3.1: Impact Questions and Answers

Is the project within an area of intense public scrutiny (e.g. because of privacy concerns) and/or frequent litigation?
No [Points: +0]

Are clients in this line of business particularly vulnerable?
No [Points: +0]

Are stakes of the decisions very high?
Yes [Points: +4]

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
Yes [Points: +3]

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

Does the decision pertain to any of the categories below (check all that apply):
Health related services [Points: +1]
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?
No [Points: +0]

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?
Difficult to reverse [Points: +3]

How long will impacts from the decision last?
Most impacts are perpetual [Points: +4]

Please describe why the impacts resulting from the decision are as per selected option above.

If the decision is correct, it might save a person's life but if by any chance the decision is incorrect, it can prove fatal for the patient and hospital, the ER staff and company might also have to face some consequences.

The impacts that the decision will have on the rights or freedoms of individuals will likely be:
Moderate impact [Points: +2]

Please describe why the impacts resulting from the decision are (as per selected option above).

If a patient has been determined as someone who has a heart disease and they didn't know it, they will be treated according to that irrespective of their will as sometimes humans are not prepared for certain treatments, as they are in the ER where the main aim to provide immediate assistance.

The impacts that the decision will have on the health and well-being of individuals will likely be:
Very high impact [Points: +4]

Please describe why the impacts resulting from the decision are (as per selected option above)

The decision might save a life, as it will help in providing timely assistance to those who need it urgently.

The impacts that the decision will have on the economic interests of individuals will likely be:
Moderate impact [Points: +2]

Please describe why the impacts resulting from the decision are (as per selected option above)

If the decision says that a person has heart disease in that case the cost of treatment might go high for the individuals, which might not be in their economic interest (for example: they can't afford it).

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 just help prioritizing who needs to be treated first, eventually everyone will be treated just in different orders thus not making any impact on the environmental sustainability.

Will the Automated Decision System use personal information as input data?
Yes [Points: +4]

Have you verified that the use of personal information is limited to only what is directly related to delivering a program or service?
Yes [Points: +0]

Is the personal information of individuals being used in a decision-making process that directly

affects those individuals?
Yes [Points: +2]

Have you verified if the system is using personal information in a way that is consistent with: (a) the current Personal Information Banks (PIBs) and Privacy Impact Assessments (PIAs) of your programs or (b) planned or implemented modifications to the PIBs or PIAs that take new uses and processes into account?
Yes [Points: +0]

What is the highest security classification of the input data used by the system? (Select one)
Protected A [Points: +1]

Who controls the data?
Private Sector / NGO [Points: +3]

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)
Yes [Points: +4]

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?
Another federal institution [Points: +2]

Will the system require the analysis of unstructured data to render a recommendation or a decision?
No [Points: 0]

Section 3.2: Mitigation Questions and Answers

Internal Stakeholders (Strategic policy and planning, Data Governance, Program Policy, etc.)
Yes [Points: +1]

Which Internal Stakeholders have you engaged?

Legal Services
Access to Information and Privacy Office
Data Governance

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

Which External Stakeholders have you engaged?

Civil Society

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?
Yes [Points: +1]

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

Have you undertaken a Gender Based Analysis Plus of the data?
Yes [Points: +1]

Is this information publicly available?
Yes [Points: +1]

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

Do you have a documented process to manage the risk that outdated or unreliable data is used to make an automated decision?
No [Points: +0]

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

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?
Yes [Points: +1]

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 the 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 the 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?
No [Points: +0]

Does the audit trail show who an authorized decision-maker is?
No [Points: +0]

Is the system able to produce reasons for its decisions or recommendations when required?
Yes [Points: +2]

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?
No [Points: +0]

Is there a recourse process established for clients that wish to challenge the decision?
No [Points: +0]

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?
No [Points: +0]

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?
Yes [Points: +1]

If your system involves the use of personal information, have you undertaken a Privacy Impact Assessment, or updated an existing one?
Yes [Points: +1]

Have you designed and built security and privacy into your systems from the concept stage of the project?
Yes [Points: +1]

Is the information used within a closed system (i.e. no connections to the Internet, Intranet or any other system)?
No [Points: +0]

If the sharing of personal information is involved, has an agreement or arrangement with appropriate safeguards been established?
No [Points: +0]