

## Consent

**Project ID: 24208**

**Project title: Explanation of outcomes of machine learning models**

**Prof Ingrid Zukerman**

Department of Data Science & AI  
Faculty of Information Technology  
**Phone:** +61 3 9905 5202  
**Email:** [Ingrid.Zukerman@monash.edu](mailto:Ingrid.Zukerman@monash.edu)

**Assoc Prof Gholamreza Haffari**

Department of Data Science & AI  
Faculty of Information Technology  
**Phone:** +61 3 9905 8106  
**Email:** [Gholamreza.Haffari@monash.edu](mailto:Gholamreza.Haffari@monash.edu)

**Dr Sameen Maruf**

Department of Data Science & AI  
Faculty of Information Technology  
**Email:** [Sameen.Maruf@monash.edu](mailto:Sameen.Maruf@monash.edu)

**Miss Xuelin Situ**

Department of Data Science & AI  
Faculty of Information Technology  
**Email:** [Xuelin.Situ@monash.edu](mailto:Xuelin.Situ@monash.edu)

**Prof Ehud Reiter**

Department of Computing Science  
University of Aberdeen  
**Email:** [e.reiter@abdn.ac.uk](mailto:e.reiter@abdn.ac.uk)

### 1 Your consent

You are invited to take part in this online study. You must be at least 18 years old to participate. Please read this Explanatory Statement in full before deciding whether you wish to participate in this research. If you would like further information regarding any aspect of this project, you are encouraged to contact the researchers via the phone numbers or email addresses listed above.

Once you understand what the project is about and agree to take part in this study, you will be asked to click a button to register your consent to participate in the experiment, and your consent to use the data for future projects.

### 2 Purpose and background

We are developing a system to generate explanations for the outcomes produced by an Artificial Intelligence (AI) system. We would appreciate your help in determining the effectiveness and acceptability of these explanations. Your views will guide our development effort.

The project is funded by the Australian Research Council (ARC), who may access our records regarding how data was collected to ensure subject protection.

### 3 Description of the experiment

In this study, which takes approximately 45 minutes, you will be asked to perform seven pairs of tasks, as follows:

1. You will be shown a prediction produced by an AI system for a particular scenario, and two brief explanations (a few short paragraphs) for this prediction. You will then be asked to provide feedback about this explanation based on several criteria, such as clarity, relevance and completeness.
2. You will be shown a reference picture and several similar-looking additional pictures, and you will be asked to identify the additional picture that matches the reference picture exactly.

Participation in this study is voluntary, and you will be paid upon completion of the experiment. In addition, after you agree to participate in this study, you may decide whether the data you provide for this project may be used for future research projects.

### IMPORTANT

**This survey can be done only in Google CHROME and Mozilla Firefox, and cannot be done on a mobile phone.**

### 4 Payment

An honorarium of \$20 in the form of a gift card (<https://www.giftpay.com.au> - valid only in Australia) will be paid **upon completion of the experiment**.

### 5 Possible benefits

Practical benefits to the community are obtained from people's improved ability to understand the output of AI programs, e.g., reduced risk from accepting recommendations made by such programs, increased productivity and revenue, and improved outcomes for end users by enabling them to understand decisions made by an AI system.

Benefits to participants can be found in hopefully enjoying the experiment, and in the satisfaction of contributing to knowledge that will assist experts in AI, practitioners and end users in the future.

### 6 Possible Risks

We cannot envisage any risks associated with this study.

### 7 Privacy, Confidentiality and Disclosure of Information

If you agree to participate in this study by clicking the "Agree to participate" button, we plan to aggregate the obtained information with that of other participants, and analyse these data. Only group statistical information and ideas arising from group behaviour will be given in any report or publication arising from the experiment. The results will be published in a scientific journal or conference.

All data collected will be stored in accordance with Monash University regulations in the data repository of Prof Zukerman's research group (UMLT), which is password-protected. The anonymised data will be used only for research purposes, and only members of Prof Zukerman's research group who are involved in the project will have access to the data. The data will be stored in the form of an excel spreadsheet containing each anonymous response to each question. All data will be stored for seven years after any publications and will then be destroyed.

### 8 Results of the project

The results from this project will be used in the development of new explanation generation systems. Participants can access the results by contacting Prof Ingrid Zukerman, the project leader.

### 9 Further information or any problems

If you require further information about this project, have questions about research and subjects' rights, or in the event of a research-related injury, you can contact the principal researcher, Prof Ingrid Zukerman. The researchers responsible for this project are:

Prof Ingrid Zukerman  
Telephone: +61 3 9905 5202  
Email: [Ingrid.Zukerman@monash.edu](mailto:Ingrid.Zukerman@monash.edu)

Dr Sameen Maruf  
Telephone: +61 3 9905 4527  
Email: [Sameen.Maruf@monash.edu](mailto:Sameen.Maruf@monash.edu)

Should you have any concerns or complaints about the conduct of the project, you are welcome to contact the Executive Officer, Monash University Human Research Ethics (MUHREC):

Executive Officer  
Monash University Human Research Ethics Committee (MUHREC)  
Room 111, Chancellery Building D,  
26 Sports Walk, Clayton Campus  
Research Office  
Monash University, VICTORIA 3800  
Tel: +61 3 9905 2052 Email: [muhrec@monash.edu](mailto:muhrec@monash.edu) Fax: +61 3 9905 3831

Thank you,

**Ingrid Zukerman**

Do you agree to participate in this study?

Yes, I am at least 18 years old. I have read the explanatory statement and agree to participate in this study.

Can the data you provide for this research be used in future research projects?

- Yes
- No

Please enter the ID assigned to you.

### Participant Information

#### About you

Before we proceed to the main survey, we would like to know a few details about you. This information will help us determine if we have been able to attract a wide range of participants. It will in no way be linked to any personal identifier.

Please answer each question as accurately as possible by selecting the appropriate box or filling in the space provided, if needed.

What is your gender?

- Male
- Female
- Non-binary / gender diverse
- My gender identity isn't listed [optionally specify]
- Prefer not to say

Which category below includes your age?

- 18-24
- 25-34
- 35-44
- 45-54
- 55 or older

What is your current place of residence?

- Africa
- Asia
- Australia
- Europe
- Latin America
- North America (USA and Canada)
- Pacific Islands
- Other
- Prefer not to say

Please specify your ethnicity.

- African
- Australian Aboriginal or Pacific Islander
- Caucasian
- East Asian
- Hispanic or Latino
- Middle Eastern
- South Asian
- Other / Unknown
- Prefer not to say

How would you rate your proficiency in English?

- Low
- Medium
- High

What is the highest level of qualification you have completed?

- Less than High School
- High School or equivalent
- Some College but no degree
- Bachelor's Degree (e.g., BA, BS)

- Master's Degree (e.g., MA, MS, MEd)  
 Doctorate (e.g., PhD, EdD)  
 Other (please specify)

How would you rate your expertise in Machine Learning?

- Low  
 Medium  
 High

Do you currently have or have had a child in an early-education facility?

- Yes  
 No

Have you ever worked in an early-education facility?

- Yes  
 No

Let's proceed to the main survey.

## Introduction

### Background

We are developing a computer system that automatically generates explanations for predictions made by an Artificial Intelligence (AI) system. For example, say we have an AI system that predicts whether an applicant to a childcare centre will be accepted or rejected. Our explanation system generates several alternative explanations for this prediction.

The objective of this study is to find out which types of explanations people find useful in order to understand and accept the predictions of the AI system. We would appreciate your help in making this determination.

### About the survey

In this survey, you will see seven situations together with some background information. We will present the outcome predicted by the AI system for each situation, and show you two alternative explanations for each outcome. You will then rate each explanation based on several criteria, such as clarity and completeness.

This experiment focuses on the childcare domain. We will first introduce you to this domain, and then we will give you an example of the questions you will get in the survey.

### The childcare domain

You are the director of the Bilby Childcare Centre, a non-profit organisation whose aim is to serve all members of the community. Part of your job is to evaluate applications from the parents of prospective pupils. Evaluating these applications involves weighing the childcare needs of families across several factors, such as housing condition and health (see the table below), in order to accept children in most need of childcare. In the past, an admissions committee performed these assessments.

To make the admission process more efficient, you have purchased a state-of-the-art AI system that predicts the outcome of an application from the data considered by the committee and the decisions made by the committee in the past -- the possible outcomes are: **priority accept**, **wait-list** or **reject**. The accuracy of your AI system in predicting the committee's decisions is 93%.

**AI systems** make predictions based on trends and patterns they identify in the data. Therefore, they may determine that attributes that are relevant to some situations are not relevant to other situations. For example, if the family's current childcare arrangements are deemed 'sufficient', their housing condition may influence the AI system's prediction about the outcome of their application. In contrast, the AI system may not need to consider the housing condition, if the current childcare arrangements are deemed 'very critical'.

Each **applicant to the Bilby Childcare Centre** fills out an application form, which is transcribed into **five** factors that make sense to the AI system. The factors and their possible values are listed below in shades of red and blue. These colours will be used in the situations you will encounter in the survey.

Factor	Possible values				
Parents' employment	Challenging	Somewhat difficult	Ordinary		
Current childcare	Very critical	Critical	Insufficient	Sufficient	Good
Housing condition	Inadequate	Somewhat inadequate	Adequate		
Social situation	Problematic	Somewhat problematic	Unproblematic		
Health (of the child)	Poor	Average	Good		

**Note:** since the Bilby Childcare Centre is a community service, it is not equipped to serve children with **poor health**. Therefore, children with **poor health** are rejected, even if their other factors would normally warrant acceptance.

In the following pages, you will see seven applications to the Bilby Childcare Centre. For each application, we will:

- present the above factors and their values, together with a few general facts regarding these factors -- the factors and their values are used by the AI system to make its predictions;
- ask you to make an educated guess about the outcome of the application;
- show you the prediction made by the AI system, together with two alternative explanations for this prediction; and

- ask you to rate these explanations along several criteria, such as clarity and completeness. Your ratings should be informed by your role as the director of the childcare centre.

Before we proceed, let's look at a sample application and the questions you will be asked.

#### **EXAMPLE Applicant:**

The Allen family has submitted an application for admission of their child to the Bilby Childcare Centre. Based on their responses in the application form, the factors and values in the first two columns in the table below have been entered into the AI system. The outcome statistics that pertain to the situation of the Allen family appear in the third, fourth and fifth columns.

Factor	Value	Outcome		
		Reject	Wait-list	Priority accept
Parents' employment	Somewhat difficult	35%	35%	30%
Current childcare	Critical	35%	19%	48%
Housing condition	Inadequate	34%	29%	37%
Social situation	Somewhat problematic	35%	36%	29%
Health (of the child)	Good	0%	60%	40%

To clarify the meaning of the statistics in the table above, 60% of applicants with **good health** are Wait-listed (last row in the table), and only 29% of applicants with **somewhat problematic social situation** get a Priority acceptance (penultimate row in the table).

In general, 32% of the applicants are given Priority acceptance, 34% are Wait-listed and 34% are Rejected.

As the director of the Bilby Childcare Centre, what is your expectation regarding the outcome of the Allens' application given their situation and the above mentioned facts?

- Priority accept
- Wait-list
- Reject
- Can't decide (no particular expectation)

Based on the Allens' circumstances, our AI system predicts that their child will get a **Priority acceptance**.

Our explanation system has produced two alternative explanations for this outcome.

With reference to Explanation A and Explanation B, indicate the extent to which you agree with the statements below in your role as director of the childcare centre.

	Explanation A					Explanation B				
	Strongly Disagree	Disagree	Neither Agree nor Disagree	Agree	Strongly Agree	Strongly Disagree	Disagree	Neither Agree nor Disagree	Agree	Strongly Agree
This explanation is complete (it is not missing information).	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
This explanation has misleading, contradictory or irrelevant information.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
This explanation helps me understand the reasoning of the AI system.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Based on the explanation, I would perform the action predicted by the AI system.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

According to the background information of the Allens, indicate whether the following statement is True or False:

35% of the applicants with somewhat problematic social situation get Rejected.

- True
- False

As the director of the Bilby Childcare Centre, please indicate your opinion about the explanations.

- I prefer Explanation A
- I prefer Explanation B
- I like both explanations equally
- I don't like any of the explanations

Which factors did you consider important when determining your expectation about the outcome of the Allens' application? Select all that apply.

Parents' employment    Current childcare    Housing condition    Social situation    Health    None apply

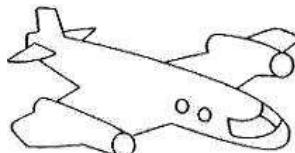
We would appreciate your suggestions about improving the explanations.

### END OF EXAMPLE

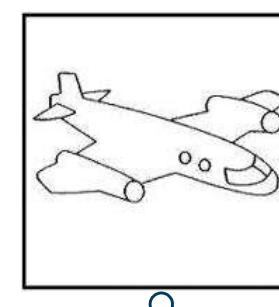
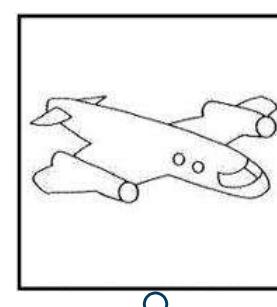
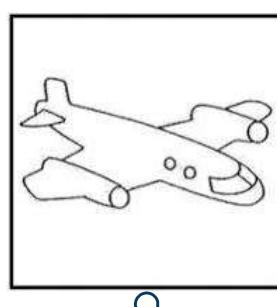
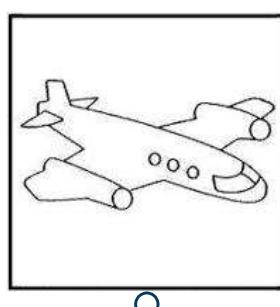
To help you absorb the provided information and refresh before moving on to the main survey, please answer the question on the next page. You will be asked similar questions between the situations to help you maintain focus.

#### Scenario Andersen Basic-PlausibleC'noimpact1

Consider the following picture:



From the following options, select the one that is exactly the same as the picture above.



#### Applicant Andersen:

The Andersen family has submitted an application for admission of their child to the Bilby Childcare Centre. Based on their responses in the application form, the factors and values in the first two columns in the table below have been entered into the AI system. The outcome statistics that pertain to the situation of the Andersen family appear in the third, fourth and fifth columns.

Factor	Value	Outcome		
		Reject	Wait-list	Priority accept
Parents' employment	Challenging	34%	20%	46%
Current childcare	Good	35%	54%	11%
Housing condition	Adequate	35%	40%	25%
Social situation	Somewhat problematic	35%	36%	29%
Health (of the child)	Good	0%	60%	40%

In general, 32% of the applicants are given Priority acceptance, 34% are Wait-listed, and 34% are Rejected.

As the director of the Bilby Childcare Centre, what is your expectation regarding the outcome of the Andersens' application given their situation and the above mentioned facts?

- Priority accept
- Wait-list
- Reject
- Can't decide (no particular expectation)

Based on the Andersens' circumstances, our AI system predicts that their child will get **Wait-listed**.

Our explanation system has produced two alternative explanations for this outcome.

With reference to Explanation A and Explanation B, indicate the extent to which you agree with the statements below in your role as director of the childcare centre.

	Explanation A					Explanation B				
	Strongly Disagree	Disagree	Neither Agree nor Disagree	Agree	Strongly Agree	Strongly Disagree	Disagree	Neither Agree nor Disagree	Agree	Strongly Agree
This explanation has misleading, contradictory or irrelevant information.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
This explanation helps me understand the reasoning of the AI system.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
This explanation is complete (it is not missing information).	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Based on the explanation, I would perform the action predicted by the AI system.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

According to the background information of the Andersens, indicate whether the following statement is True or False:

The housing condition of the Andersen family is adequate.

- True
- False

As the director of the Bilby Childcare Centre, please indicate your opinion about the explanations.

- I prefer Explanation A
- I prefer Explanation B
- I like both explanations equally
- I don't like any of the explanations

Which factors did you consider important when determining your expectation about the outcome of the Andersens' application?  
Select all that apply.

- Parents' employment
- Current childcare
- Housing condition
- Social situation
- Health
- None apply

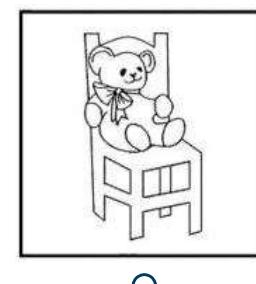
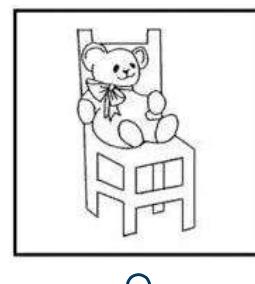
We would appreciate your suggestions about improving the explanations.

#### Scenario Smith Basic-Plausible-notC-LE4

Consider the following picture:



From the following options, select the one that is exactly the same as the picture above.

**Applicant Smith:**

The Smith family has submitted an application for admission of their child to the Bilby Childcare Centre. Based on their responses in the application form, the factors and values in the first two columns in the table below have been entered into the AI system. The outcome statistics that pertain to the situation of the Smith family appear in the third, fourth and fifth columns.

Factor	Value	Outcome		
		Reject	Wait-list	Priority accept
Parents' employment	Ordinary	34%	47%	19%
Current childcare	Critical	35%	19%	48%
Housing condition	Somewhat inadequate	35%	33%	32%
Social situation	Somewhat problematic	35%	36%	29%
Health (of the child)	Good	0%	60%	40%

In general, 32% of the applicants are given Priority acceptance, 34% are Wait-listed, and 34% are Rejected.

As the director of the Bilby Childcare Centre, what is your expectation regarding the outcome of the Smiths' application given their situation and the above mentioned facts?

- Priority accept
- Wait-list
- Reject
- Can't decide (no particular expectation)

Based on the Smiths' circumstances, our AI system predicts that their child will get **Wait-listed**.

Our explanation system has produced two alternative explanations for this outcome.

With reference to **Explanation A** and **Explanation B**, indicate the extent to which you agree with the statements below in your role as director of the childcare centre.

	Explanation A					Explanation B				
	Strongly Disagree	Disagree	Neither Agree nor Disagree	Agree	Strongly Agree	Strongly Disagree	Disagree	Neither Agree nor Disagree	Agree	Strongly Agree
This explanation is complete (it is not missing information).	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
This explanation has misleading, contradictory or irrelevant information.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
This explanation helps me understand the reasoning of the AI system.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Based on the explanation, I would perform the action predicted by the AI system.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

According to the background information of the Smiths, indicate whether the following statement is True or False:

32% of the applicants with somewhat inadequate housing condition get Rejected.

- True
- False

As the director of the Bilby Childcare Centre, please indicate your opinion about the explanations.

- I prefer Explanation A
- I prefer Explanation B
- I like both explanations equally
- I don't like any of the explanations

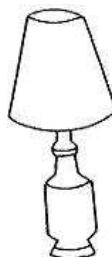
Which factors did you consider important when determining your expectation about the outcome of the Smiths' application? Select all that apply.

- Parents' employment  Current childcare  Housing condition  Social situation  Health  None apply

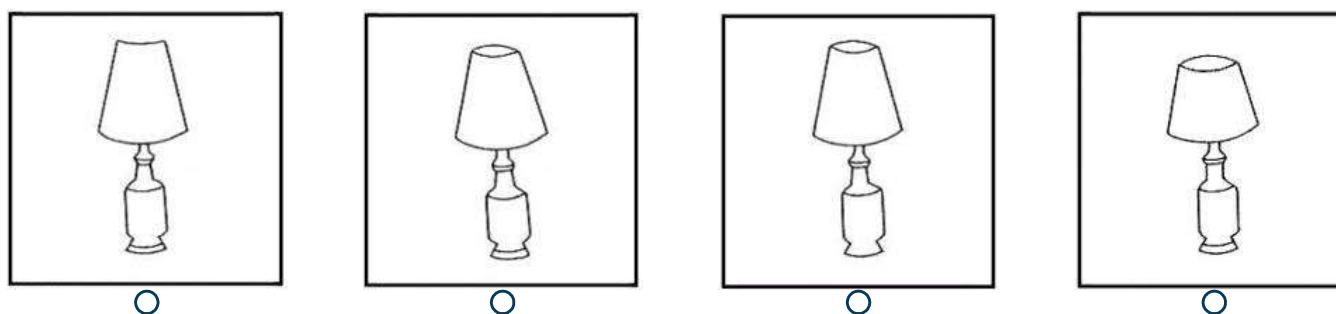
We would appreciate your suggestions about improving the explanations.

#### Scenario Nicholson Basic-Plausible-notC-HE7

Consider the following picture:



From the following options, select the one that is exactly the same as the picture above.



#### Applicant Nicholson:

The Nicholson family has submitted an application for admission of their child to the Bilby Childcare Centre. Based on their responses in the application form, the factors and values in the first two columns in the table below have been entered into the AI system. The outcome statistics that pertain to the situation of the Nicholson family appear in the third, fourth and fifth columns.

Factor	Value	Outcome		
		Reject	Wait-list	Priority accept
Parents' employment	Somewhat difficult	35%	35%	30%
Current childcare	Insufficient	35%	35%	30%
Housing condition	Somewhat inadequate	35%	33%	32%
Social situation	Problematic	33%	29%	38%
Health (of the child)	Good	0%	60%	40%

In general, 32% of the applicants are given Priority acceptance, 34% are Wait-listed, and 34% are Rejected.

As the director of the Bilby Childcare Centre, what is your expectation regarding the outcome of the Nicholsons' application given their situation and the above mentioned facts?

- Priority accept
- Wait-list
- Reject
- Can't decide (no particular expectation)

Based on the Nicholsons' circumstances, our AI system predicts that their child will get a **Priority acceptance**.

Our explanation system has produced two alternative explanations for this outcome.

With reference to Explanation A and Explanation B, indicate the extent to which you agree with the statements below in your role as director of the childcare centre.

	Explanation A					Explanation B				
	Strongly Disagree	Disagree	Neither Agree nor Disagree	Agree	Strongly Agree	Strongly Disagree	Disagree	Neither Agree nor Disagree	Agree	Strongly Agree
This explanation has misleading, contradictory or irrelevant information.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
This explanation helps me understand the reasoning of the AI system.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
This explanation is complete (it is not missing information).	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Based on the explanation, I would perform the action predicted by the AI system.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

According to the background information of the Nicholsons, indicate whether the following statement is True or False:

33% of the applicants with somewhat inadequate housing condition get Wait-listed.

- True
- False

As the director of the Bilby Childcare Centre, please indicate your opinion about the explanations.

- I prefer Explanation A
- I prefer Explanation B
- I like both explanations equally
- I don't like any of the explanations

Which factors did you consider important when determining your expectation about the outcome of the Nicholsons' application?  
Select all that apply.

- Parents' employment
- Current childcare
- Housing condition
- Social situation
- Health
- None apply

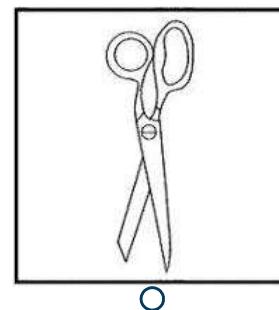
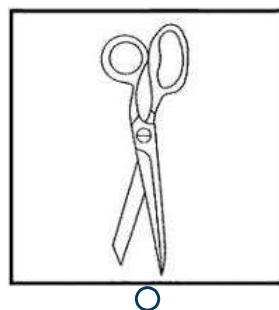
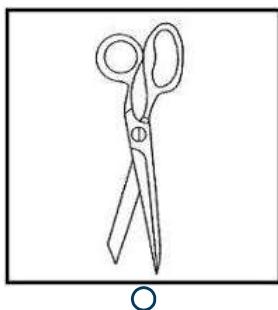
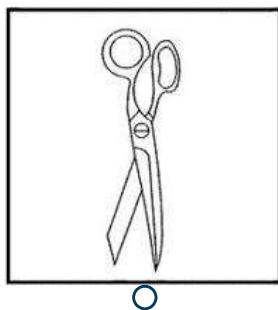
We would appreciate your suggestions about improving the explanations.

#### Scenario Thompson Basic-PlausibleCnoimpact8

Consider the following picture:



From the following options, select the one that is exactly the same as the picture above.



### Applicant Thompson:

The Thompson family has submitted an application for admission of their child to the Bilby Childcare Centre. Based on their responses in the application form, the factors and values in the first two columns in the table below have been entered into the AI system. The outcome statistics that pertain to the situation of the Thompson family appear in the third, fourth and fifth columns.

Factor	Value	Outcome		
		Reject	Wait-list	Priority accept
Parents' employment	Challenging	34%	20%	46%
Current childcare	Very critical	33%	8%	59%
Housing condition	Adequate	35%	40%	25%
Social situation	Problematic	33%	29%	38%
Health (of the child)	Good	0%	60%	40%

In general, 32% of the applicants are given Priority acceptance, 34% are Wait-listed, and 34% are Rejected.

As the director of the Bilby Childcare Centre, what is your expectation regarding the outcome of the Thompsons' application given their situation and the above mentioned facts?

- Priority accept
- Wait-list
- Reject
- Can't decide (no particular expectation)

Based on the Thompsons' circumstances, our AI system predicts that their child will get a **Priority acceptance**.

Our explanation system has produced two alternative explanations for this outcome.

With reference to **Explanation A** and **Explanation B**, indicate the extent to which you agree with the statements below in your role as director of the childcare centre.

	Explanation A					Explanation B				
	Strongly Disagree	Disagree	Neither Agree nor Disagree	Agree	Strongly Agree	Strongly Disagree	Disagree	Neither Agree nor Disagree	Agree	Strongly Agree
This explanation is complete (it is not missing information).	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
This explanation has misleading, contradictory or irrelevant information.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
This explanation helps me understand the reasoning of the AI system.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Based on the explanation, I would perform the action predicted by the AI system.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

According to the background information of the Thompsons, indicate whether the following statement is True or False:

The housing condition of the Thompson child is critical.

- True
- False

As the director of the Bilby Childcare Centre, please indicate your opinion about the explanations.

- I prefer Explanation A
- I prefer Explanation B
- I like both explanations equally
- I don't like any of the explanations

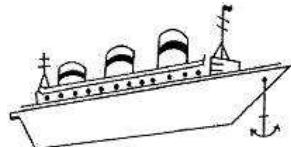
Which factors did you consider important when determining your expectation about the outcome of the Thompsons' application?  
Select all that apply.

- Parents' employment  Current childcare  Housing condition  Social situation  Health  None apply

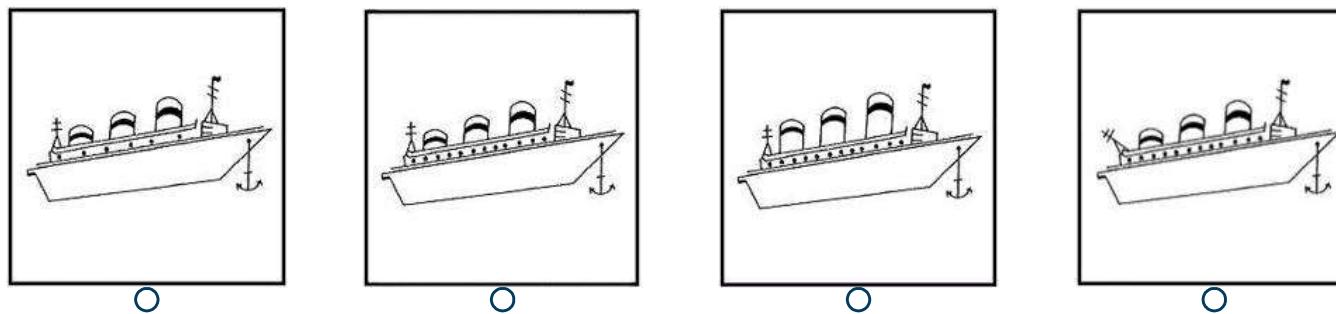
We would appreciate your suggestions about improving the explanations.

#### Scenario Brown Basic-PlausibleC'9

Consider the following picture:



From the following options, select the one that is exactly the same as the picture above.



#### Applicant Brown:

The Brown family has submitted an application for admission of their child to the Bilby Childcare Centre. Based on their responses in the application form, the factors and values in the first two columns in the table below have been entered into the AI system. The outcome statistics that pertain to the situation of the Brown family appear in the third, fourth and fifth columns.

Factor	Value	Outcome		
		Reject	Wait-list	Priority accept
Parents' employment	Challenging	34%	20%	46%
Current childcare	Good	35%	54%	11%
Housing condition	Inadequate	34%	29%	37%
Social situation	Problematic	33%	29%	38%
Health (of the child)	Average	0%	43%	57%

In general, 32% of the applicants are given Priority acceptance, 34% are Wait-listed, and 34% are Rejected.

As the director of the Bilby Childcare Centre, what is your expectation regarding the outcome of the Browns' application given their situation and the above mentioned facts?

- Priority accept
- Wait-list
- Reject
- Can't decide (no particular expectation)

Based on the Browns' circumstances, our AI system predicts that their child will get a **Priority acceptance**.

Our explanation system has produced two alternative explanations for this outcome.

With reference to Explanation A and Explanation B, indicate the extent to which you agree with the statements below in your role as **director of the childcare centre**.

	Explanation A					Explanation B				
	Strongly Disagree	Disagree	Neither Agree nor Disagree	Agree	Strongly Agree	Strongly Disagree	Disagree	Neither Agree nor Disagree	Agree	Strongly Agree
This explanation has misleading, contradictory or irrelevant information.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
This explanation is complete (it is not missing information).	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
This explanation helps me understand the reasoning of the AI system.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Based on the explanation, I would perform the action predicted by the AI system.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

According to the background information of the Browns, indicate whether the following statement is True or False:

38% of the applicants with problematic social situation get a Priority acceptance.

- True
- False

As the director of the Bilby Childcare Centre, please indicate your opinion about the explanations.

- I prefer Explanation A
- I prefer Explanation B
- I like both explanations equally
- I don't like any of the explanations

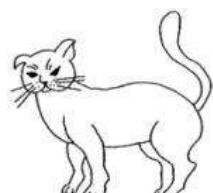
Which factors did you consider important when determining your expectation about the outcome of the Browns' application?  
Select all that apply.

- Parents' employment
- Current childcare
- Housing condition
- Social situation
- Health
- None apply

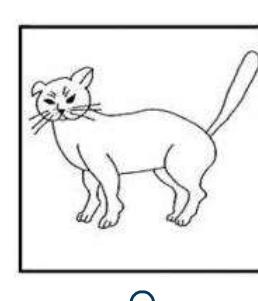
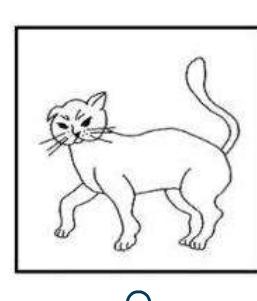
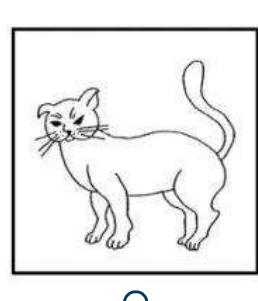
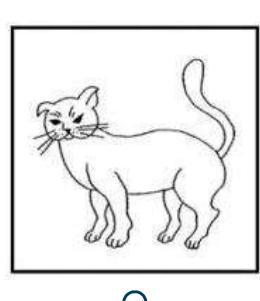
We would appreciate your suggestions about improving the explanations.

#### Scenario Ryan PlausiblenotC-HE-PlausibleC'11

Consider the following picture:



From the following options, select the one that is exactly the same as the picture above.



**Applicant Ryan:**

The Ryan family has submitted an application for admission of their child to the Bilby Childcare Centre. Based on their responses in the application form, the factors and values in the first two columns in the table below have been entered into the AI system. The outcome statistics that pertain to the situation of the Ryan family appear in the third, fourth and fifth columns.

Factor	Value	Outcome		
		Reject	Wait-list	Priority accept
Parents' employment	Challenging	34%	20%	46%
Current childcare	Sufficient	35%	55%	10%
Housing condition	Somewhat inadequate	35%	33%	32%
Social situation	Problematic	33%	29%	38%
Health (of the child)	Average	0%	43%	57%

In general, 32% of the applicants are given Priority acceptance, 34% are Wait-listed, and 34% are Rejected.

As the director of the Bilby Childcare Centre, what is your expectation regarding the outcome of the Ryans' application given their situation and the above mentioned facts?

- Priority accept
- Wait-list
- Reject
- Can't decide (no particular expectation)

Based on the Ryans' circumstances, our AI system predicts that their child will get a **Priority acceptance**.

Our explanation system has produced two alternative explanations for this outcome.

With reference to **Explanation A** and **Explanation B**, indicate the extent to which you agree with the statements below in your role as director of the childcare centre.

	Explanation A					Explanation B				
	Strongly Disagree	Disagree	Neither Agree nor Disagree	Agree	Strongly Agree	Strongly Disagree	Disagree	Neither Agree nor Disagree	Agree	Strongly Agree
This explanation helps me understand the reasoning of the AI system.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
This explanation has misleading, contradictory or irrelevant information.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
This explanation is complete (it is not missing information).	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Based on the explanation, I would perform the action predicted by the AI system.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

According to the background information of the Ryans, indicate whether the following statement is True or False:

33% of the applicants with problematic social situation get Wait-listed.

- True
- False

As the director of the Bilby Childcare Centre, please indicate your opinion about the explanations.

- I prefer Explanation A
- I prefer Explanation B
- I like both explanations equally
- I don't like any of the explanations

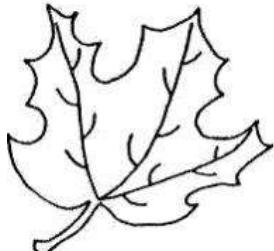
Which factors did you consider important when determining your expectation about the outcome of the Ryans' application? Select all that apply.

Parents' employment	<input type="checkbox"/>	Current childcare	<input type="checkbox"/>	Housing condition	<input type="checkbox"/>	Social situation	<input type="checkbox"/>	Health	<input type="checkbox"/>	None apply	<input type="checkbox"/>
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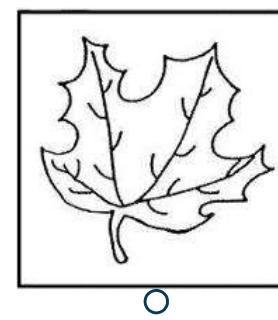
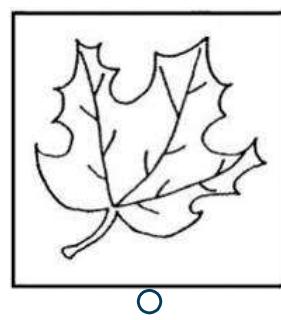
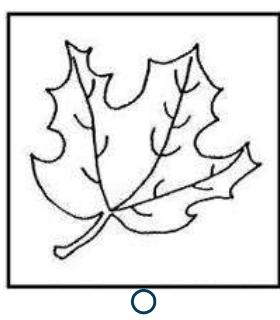
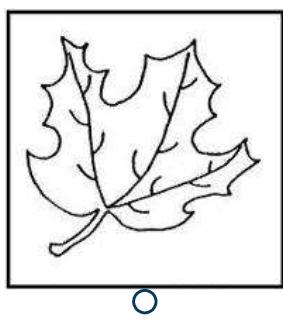
We would appreciate your suggestions about improving the explanations.

### Scenario Jackson PlausibleC'-PlausibleCnoimpact12

Consider the following picture:



From the following options, select the one that is exactly the same as the picture above.



#### Applicant Jackson:

The Jackson family has submitted an application for admission of their child to the Bilby Childcare Centre. Based on their responses in the application form, the factors and values in the first two columns in the table below have been entered into the AI system. The outcome statistics that pertain to the situation of the Jackson family appear in the third, fourth and fifth columns.

Factor	Value	Outcome		
		Reject	Wait-list	Priority accept
Parents' employment	Challenging	34%	20%	46%
Current childcare	Very critical	33%	8%	59%
Housing condition	Inadequate	34%	29%	37%
Social situation	Problematic	33%	29%	38%
Health (of the child)	Good	0%	60%	40%

In general, 32% of the applicants are given Priority acceptance, 34% are Wait-listed, and 34% are Rejected.

As the director of the Bilby Childcare Centre, what is your expectation regarding the outcome of the Jacksons' application given their situation and the above mentioned facts?

- Priority accept
- Wait-list
- Reject
- Can't decide (no particular expectation)

Based on the Jacksons' circumstances, our AI system predicts that their child will get a **Priority acceptance**.

Our explanation system has produced two alternative explanations for this outcome.

With reference to Explanation A and Explanation B, indicate the extent to which you agree with the statements below in your role as director of the childcare centre.

	Explanation A					Explanation B				
	Strongly Disagree	Disagree	Neither Agree nor Disagree	Agree	Strongly Agree	Strongly Disagree	Disagree	Neither Agree nor Disagree	Agree	Strongly Agree
This explanation has misleading, contradictory or irrelevant information.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
This explanation helps me understand the reasoning of the AI system.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
This explanation is complete (it is not missing information).	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Based on the explanation, I would perform the action predicted by the AI system.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

According to the background information of the Jacksons, indicate whether the following statement is True or False:

The social situation of the Jackson family is unproblematic.

- True
- False

As the director of the Bilby Childcare Centre, please indicate your opinion about the explanations.

- I prefer Explanation A
- I prefer Explanation B
- I like both explanations equally
- I don't like any of the explanations

Which factors did you consider important when determining your expectation about the outcome of the Jacksons' application?  
Select all that apply.

- Parents' employment
- Current childcare
- Housing condition
- Social situation
- Health
- None apply

We would appreciate your suggestions about improving the explanations.

#### Post-Experiment

Please indicate how much you agree with the following statements regarding the childcare domain:

	Strongly disagree	Disagree	Neither agree nor disagree	Agree	Strongly agree
The explanations made sense to me	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I understand the childcare domain	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I can relate to the childcare domain	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The childcare domain is fun	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

We would appreciate any further insights about your preferences regarding the explanations.