

PARTICIPANT INFORMATION SHEET

Concept Bottleneck Models lay-person user study

You are being invited to take part in a research project. Before you decide whether or not to take part, it is important for you to understand why the research is being undertaken and what it will involve. Please take time to read the following information carefully and discuss it with others, if you wish.

Thank you for reading this.

1. What is the purpose of this research project?

In this research project we are looking at whether the addition of explanations to a machine learning systems predictions help a human collaborator gain trust in the system or not. The machine learning system will provide a predicted classification and human understandable concepts/attributes given an input (e.g. an image) with explanation in the form of heatmaps overlaying the input. This is a postgraduate research student project.

2. Why have I been invited to take part?

You have been invited because you have raised interest in participating in the study.

3. Do I have to take part?

No, your participation in this research project is entirely voluntary and it is up to you to decide whether or not to take part. If you decide to take part, we will discuss the research project with you and ask you to sign a consent form. If you decide not to take part, you do not have to explain your reasons and it will not affect your legal rights. If participants are Cardiff University students, it should be made clear that involvement in this research project will have no effect on their education or progression through a degree course.

You are free to withdraw your consent to participate in the research project at any time, without giving a reason, even after signing the consent form.

4. What will taking part involve?

In taking part in this research project, you will complete a series of tasks where you will see in image with a number of playing cards present and are tasked with playing the game Blackjack. To assist you, you can use our artificial agent which will make suggestions on what to play. You will be able to interact with the artificial agent before making your decision. The study will be completed in a single session and should take you about half an hour to complete.

5. Will I be paid for taking part?

Yes. You will be given a £5 Love2Shop gift card on completion of your participation in this study.

6. What are the possible benefits of taking part?

There will be no direct advantages or benefits to you from taking part, but your contribution will help us understand how humans and machines can better collaborate in future tasks.

7. What are the possible risks of taking part?

By participating in this study you will be playing a card game often used to gamble. For the study there will be no real-world gain or loss and we will show you a score instead of a cash balance. Up-to-date information on gambling addiction, and where to find help, can be found here: <https://www.nhs.uk/live-well/addiction-support/gambling-addiction/>.

8. Will my taking part in this research project be kept confidential?

All information collected from (or about) you during the research project will be kept confidential and any personal information you provide will be managed in accordance with data protection legislation. Please see ‘What will happen to my Personal Data?’ (below) for further information.

9. What will happen to my Personal Data?

Cardiff University is the Data Controller and is committed to respecting and protecting your personal data in accordance with your expectations and Data Protection legislation. Further information about Data Protection, including:

- your rights
- the legal basis under which Cardiff University processes your personal data for research
- Cardiff University’s Data Protection Policy
- how to contact the Cardiff University Data Protection Officer
- how to contact the Information Commissioner’s Office

may be found at <https://www.cardiff.ac.uk/public-information/policies-and-procedures/data-protection>

After 6 years, the research team will anonymise all the personal data it has collected from, or about, you in connection with this research project, with the exception of your consent form. Your consent form will be retained for 6 years and may be accessed by members of the research team and, where necessary, by members of the University’s governance and audit teams or by regulatory authorities. Anonymised information will be kept for a minimum of 1 year but may be published in support of the research project and/or retained indefinitely, where it is likely to have continuing value for research purposes.

10. What happens to the data at the end of the research project?

After the end of this research project any data collected will be retained a minimum of for 1 year and may be used for related research, all of which will be in the field of Computer Science. Only anonymised data will be shared outside of the research team at Cardiff University.

11. What will happen to the results of the research project?

It is our intention to publish the results of this research project in academic journals and present findings at conferences in late 2024 to mid 2025. Participants will not be identified in any report, publication or presentation. We may use quotes from participants but only if the

selected quote contains no personal identifying information. Participants are able to request to be informed when results are published and how to access a copy.

12. What if there is a problem?

If you wish to complain, or have grounds for concerns about any aspect of the manner in which you have been approached or treated during the course of this research, please contact Jack Furby. If your complaint is not managed to your satisfaction, please contact the Computer Science ethics committee (comsc-ethics@cardiff.ac.uk).

If you are harmed by taking part in this research project, there are no special compensation arrangements. If you are harmed due to someone's negligence, you may have grounds for legal action, but you may have to pay for it.

13. Who is organising and funding this research project?

The research is organised by Jack Furby and Alun Preece and the school of Computer Science and Informatics in Cardiff University. The research is funded by UKRI.

14. Who has reviewed this research project?

This research project has been reviewed and given a favourable opinion by the School of Computer Science and Informatics School Research Ethics Committee (SREC).

15. Further information and contact details

Should you have any questions relating to this research project, you may contact us during normal working hours:

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Thank you for considering to take part in this research project. If you decide to participate, you will be given a copy of the Participant Information Sheet and a signed consent form to keep for your records.