PARTICIPANT CONSENT DOCUMENT

Title of Study: A usability study to assess the clinical utility of artificial intelligence and explainable artificial intelligence systems on brain tumor classification prediction tasks.

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1. Invitation and Study Purpose

We're inviting you to a usability study that aims to assess if and how AI (artificial intelligence) can be deployed clinically to assist doctors' clinical decision-making tasks. Although AI, especially deep learning technologies, have the potential to augment clinicians' abilities, its implementation in patient-care settings has not yet become widespread. As an initial step towards the clinical implementation of AI technologies, we deploy such technologies to mimic clinical judgment settings, and explore if and how AI would help with the clinical decision-support? If so, in what way? If not, what are the challenges and gaps in existing AI technologies when applying them in clinical tasks?

To participate in the study, you must **hold an MD; and must be a consultant neurosurgeon, radiologist, or neuro-radiologist, or a trainee in one of the medical specialities of neurosurgery, radiology, or neuro-radiology**.

Study Procedure

The study is conducted remotely. It consists of an online MRI reading survey (30-60 min).

In the **MRI reading survey**, you will read 25 MRI images of patients with glioma, and give your judgment on the tumor type. You will also indicate how confident you are in making the decisions. The MRI may be accompanied by different forms of AI assistance.

After the completion of the MRI reading survey, you will be thanked with a gift card or cash with an equivalent value of CAD $50. For your convenience, the gift card or cash will be converted to the currency in your residence country.

Voluntary Participation

Your participation is voluntary. You have the right to refuse to participate in this study. You should not feel pressured to participate because of an existing relationship with the contacted colleague or the research team. If you decide to participate, you may still choose to withdraw from the study at any time without any negative consequences to the education, employment, or other services to which you are entitled or are presently receiving. To withdraw from the study, you can simply close the webpage if you're taking the online MRI reading survey,. You data collected will be removed from the study should you request it.

Potential Benefits

Although the study will not provide direct immediate benefits to you, the findings from the study should result in improved knowledge and understanding from healthcare professionals to inform the future design of AI systems that assist healthcare professionals' work.

Potential Risks

There are no foreseeable risks to participants or researchers.

The survey study will be conducted remotely using SFU SurveyMonkey Forms with SFU Computing ID account.

Although the SurveyMonkey application and data are hosted in Canada by a commercial provider external to SFU, the SurveyMonkey company is an US-owned company, and as such, is subject to the USA Patriot Act and CLOUD Act. These laws allow government authorities to access the records of host services and internet service providers. By choosing to participate, you understand that your participation in this study may become known to US federal agencies.

Confidentiality

Your confidentiality will be respected. Your personally identifiable information will not be recorded in the survey.
Your survey responses will be recorded anonymously using SurveyMonkey Forms with SFU computing ID account. The SurveyMonkey application and data are hosted in Canada by a commercial provider external to SFU. We will transfer the survey responses to a secure server located at SFU and delete the survey data on the host server. We retain the data for five years and will destroy all the records afterwards.

If you choose to contact the investigators about this study, we will not share your personal information, including your email address, with anyone. We will make our best effort to maintain the confidentiality of your communication with us, but be aware that email is not a secure mean to share confidential information.

Re-contact

In your post-survey email to receive the study compensation and to schedule the optional post-survey interview, we will ask for your approval to be re-contacted after the study session. We will re-contact you in case we require clarifications regarding any of the responses provided by you, and when the primary report or study publication draft is made available, so that you can provide feedback on the findings or results of the research.

Dissemination of Results

The primary manner to disseminate the study results is through manuscripts submitted for peer-review publications and conference presentations at various research communities in medicine or artificial intelligence. No personally identifiable information will be shared during the dissemination of results.

Participant Consent

Taking part in this study is entirely up to you. You have the right to refuse to participate in this study. If you decide to take part in the study, you may choose to withdraw from the study at any time without giving reasons. You understand the risks and benefits of your participation in this study.

- Your participation in this study is voluntary.
- You can decide to stop at any time, even part-way through the study for whatever reason.
- If you decide to stop participating, there will be no consequences to you.
- If you decide to stop, we will ask you if you would like us to destroy the collected data from this study.
- If you do not want to answer some of the questions you do not have to, but you can still be in the study.
- You do not waive any of your legal rights by participating in this study.
- If you have any questions about this study or would like more information you can call or email Dr. Ghassan Hamarneh at the contact information on the first page.

If you have any concerns or complaints about your rights as a research participant and/or your experiences while participating in this study, you may contact Dr. Jeffrey Toward, Director, Office of Research Ethics, Simon Fraser University, British Columbia, Canada, at jtoward@sfu.ca or +1 778-782-6593.

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