Human User Studies for Explainable AI

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1 Research field

Computer systems and especially AI systems and their decisions are difficult to understand for humans. If we cannot understand when and why a system decides, it can become problematic. To address this problem, these systems should be understandable. This can be achieved by using by default transparent and understandable systems, or by explanations created by or for the system.

Creating explanations can be divided in at least two categories. The information collection or generation and second the information presentation. While the information collection and generation is already researched a lot, the information presentation needs a lot more research. Because of that, most XAI research is not evaluated with humans, which is a critical problem.

This project should address this problem by researching the needs of users, developers, maintainers or other stakeholders. To create helpful explanations, we need to know what the different recipients needs are. What way of presentation works best in a given situation? Are there differences between stakeholders, and which stakeholders need explanations?

2 Your Contribution

Contact us

We want you to conduct user studies and researching a very specific research question in this domain. We can and will support you in finding a valuable research question, but we are open to your interests and ideas. You may want to conduct an interview of experts to identify the requirements of this stakeholder group. Maybe you want to conduct a study to identify the effect of explanation duration on the understandability. Sometimes it is helpful to study a small group, sometimes more users are helpful. In the later case we recommend you to do it in a small group of two to three students.