PROCEEDINGS OF SCIENCE

How to explain AI in an understandable way? Citizen scientists, AI experts and artists find answers together

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Artificial intelligence (AI) is currently an omnipresent, yet quite abstract topic that affects all of us—whether we are aware of it or not. Therefore, explaining AI in an understandable way is a major challenge. As far-reaching AI is currently spreading in various areas of life, we consider it as extremely important that as many people as possible gain a basic understanding of AI, a certain "AI literacy". Thus, we engaged in a participatory research project together with citizen scientists, artists and AI experts, addressing the question "How to explain AI?". In a series of workshops, we brought together existing knowledge and burning questions about AI in our everyday lives from different perspectives, and developed new artistic forms of knowledge transfer for a better understanding of AI for non-experts. The outcome of this co-creation process was a selection of innovative approaches to foster a basic understanding and a realistic image of AI among the general population. In this paper we present the participatory process leading to these ideas.

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1. Motivation: Why should we try to explain AI in an understandable way?

These days, Artificial Intelligence (AI) is omnipresent. Whether we like it or not, AI affects us all. In academia there is a growing number of scientific publications on AI technology and its present and future impact on society [1]. In the general public, media coverage on latest developments, new applications and future scenarios are constantly growing in recent years [5]. However, scientific literature on AI is not easily accessible or understandable to non-experts [6], and especially given recent trends and hypes around generative AI (e.g., ChatGPT), the images of AI presented in popular media are not always helpful in gaining a proper perspective on AI. Therefore, it is highly important to empower non-experts to engage in an informed and critical discourse about AI, i.e., to promote a certain level of AI literacy among the general public [3] [4] [7]. As our contribution to AI literacy, we started this participatory project "How to explain AI".

Within our project we deployed a participatory approach enabling different stakeholders to be actively involved in the research process as co-researchers [2]. This allows to make visible certain knowledge of the involved participants that would otherwise remain hidden, thus ensuring that the groups and persons involved are always taken into account within an innovation process. As the overall objective of our project was to develop an arts-based intervention to promote basic knowledge about AI for a broad audience, we invited three groups of co-researchers: Citizen scientists, artists and AI experts working together for an understandable explanation of AI. This co-creation process, which we briefly depict in the present paper, involved a series of workshops and resulted in a song about AI aiming to foster a basic understanding and a realistic image of AI.

2. Approach: Involvement of co-researchers with three different perspectives

For a multi-perspective, innovative and profound view on AI, we included three distinct groups of co-researchers: citizen scientists, artists, and AI experts (see Figure 1).

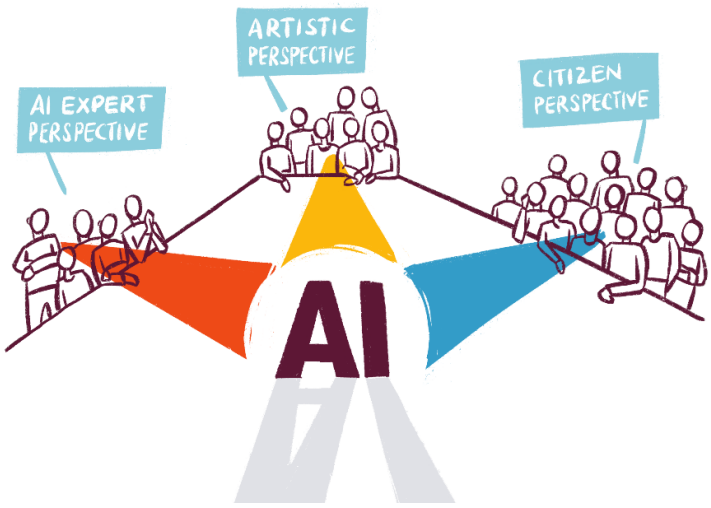

Figure 1: The three groups of co-researchers: AI experts, artists and citizen scientists

The first group consisted of ten persons between the ages of 18 and 62 who participated as **citizen scientists**. They came with different backgrounds and with no specific (expert) knowledge about AI, however, interested in the topic. Their task was to bring in a daily-life perspective, their

subjective viewpoints, questions, as well as concerns and desires regarding AI. With this group we gathered around 100 questions about AI that we would like to have addressed in an understandable way.

The second group consisted of six people who consider themselves as **artists** in various fields, reaching from pottery, theatre to media arts. Some were even familiar with the field of AI, others not at all. Their task was to contribute an artistic perspective on the representation of AI and develop new creative approaches for knowledge transfer for a better understanding of AI for non-experts. With this group we have developed several innovative ideas for arts-based interventions aimed at promoting access to the topic of AI and reaching a broad audience. These ideas formed the basis for the later artistic intervention.

The third group consisted of four **AI experts** professionally working in the field of AI. This group contributed expert knowledge, fact-checking, and critical review of the outcomes of the workshops. Furthermore, this group highlighted relevant topics from an expert perspective and brought a realistic view of AI developments beyond dystopian or utopian AI narratives.

All three groups met in a **series of on-site workshops** (see Figure 2). At the beginning of the process, the three groups gathered separately three times for around 3 hours each. During this phase the groups worked primarily on "their" tasks. The citizen scientists worked on collecting and elaborating questions about AI in their everyday lives, the artists on artistic forms of knowledge transfer, and the AI experts on critically discussing basic features of AI. In this phase, we acted as facilitators and co-researchers to share the outcomes from each group with the others in order to interweave the discourses of the groups.

We then conducted a half-day workshop with members of all three groups. This workshop was attended by 12 persons: four citizen scientists, three artists, two AI experts, and three members of our research team. Based on the outcomes of the previous workshops (especially the questions on AI), we developed ideas for different arts-based approaches to communicate basic AI knowledge. Finally, we further elaborated on three options: a circus show, a sticker campaign, and a song.

Figure 2: Phases of the project: Collect mattering questions about AI - find creative approaches of answering - take it out to the world

3. Outlook: A song about AI

In addition to the general project goal of improving AI literacy among the general public, at the end of the participatory and co-creative process, one specific "educative intervention" should be realized that can be spread to promote AI literacy. The result of this open process is a song, "A Liadl, ans üwa KI": https://www.jku.at/lit-robopsychology-lab/ki-liadl (released in October 2023).

4. Learnings: Insights from deploying this process

Finally, we would like to share some of our hands-on experiences from the described participatory process. One of the challenges was to explore such an abstract and elusive topic as AI together with people without specific training or prior knowledge. To engage the citizen scientists, it seemed especially important to consider them as the "real-life" experts they are: We built the discussions around personal experiences of the participating citizen scientists, e.g., World Cafés or self-observations between meetings that were related to their own experiences. With this approach we talked to each other on eye-level: We started with questions from the citizen scientists, which were later answered by the AI experts instead of "lecturing" them. Furthermore, the effort we put in creating a comfortable atmosphere for our workshops and discussions turned out well: Everyone's input and opinion was taken seriously, the activity of every single participant was continuously high.

The involvement of artists positively influenced the process by broadening perspectives and providing a variety of ways to deal with the collected questions and issues.

It turned out that all co-researchers, including us, benefited from the participatory process. Also the involved AI experts appreciated the opportunity for exchange and the change of perspective, which enabled certain "Aha moments." Finding answers to seemingly "trivial" lay questions and formulating them in understandable terms turned out to be an interesting and rewarding exercise for them.

5. Acknowledgements

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