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H3AI 2022: Hackathon on Hybrid Human Artificial Intelligence

Fake News Challenge

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Abstract. As part of the first Hybrid Human Artificial Intelligence conference, the HHAI 2022, a hackathon was organized. This work reports on this event, its challenge and obtained results. In total five teams of early researchers and AI engineers tackled the societal problem of fake news under supervision of domain experts and experienced researchers. This resulted in five ideas on how human-AI interaction can be utilized to address the identification and impact mitigation of fake news on society.

Keywords. Artificial Intelligence, Hybrid Intelligence, Hybrid Human Artificial Intelligence, Hackathon, Fake News

1. Introduction

The hackathon on hybrid human and AI intelligence (H3AI)[2] is the first of its kind. The hackathon was born from a need for more human-centred AI research. The goal of the event was to help create a community of like-minded researchers and practitioners of human-centred AI, share their ideas and knowledge, and use their expertise to address pressing societal issues.

The hackathon focuses on the topic of putting research on hybrid intelligence in practice. Hybrid Intelligence is the combination of human and machine intelligence, augmenting human intellect and capabilities instead of replacing them and achieving goals that were unreachable by either humans or machines [1]. It includes topics such as collaborative decision-making, hybrid AI, explainable AI, responsible AI and similar.

The event took place during the first edition of the Hybrid Human Artificial Intelligence conference in 2022[3]. Below we report on the challenge the teams faced in this first edition as well as the resulting ideas.

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[2] www.h3ai.nl
[3] https://www.hhai-conference.org/

2. The challenge: Fake news

In this first edition of H3AI, the challenge was to address fake news through a Hybrid Intelligence perspective. The use of fake news is a prime example of how complex societal issues can be. Not only is it notoriously difficult to detect fake news, it also has profound impact on our society that can have long lasting effects.

What makes fake news detection so challenging is the amount of effort needed to verify an article compared to the accepted truth. Often such a truth is ambiguous and not clear, or worse, it is non-existent. To add to this complexity, with social media and the internet, news articles can and will be interpreted in various different ways leading to new articles or statements that are not necessarily true. Finally, fake news is often applied for secondary motives ranging from monetary goals to influence certain demographics for elections. This impact, combined with the ambiguity of what is fake or real, makes the detection, verification and subsequent mitigation of fake news difficult and time consuming.

Although an AI can help experts such as fact checkers in detecting fake news by processing large amounts of data, it lacks the ability to understand the ambiguity that lies in classifying something as truthful or not. However, a more human-centred approach with a hybrid intelligence perspective might offer new solutions. For instance, the human intellect can resolve ambiguity through intuition and expertise while the artificial intellect can offer processing power, structure and support. For this reason, the H3AI selected this challenge to explore the potential of a Hybrid Intelligence solution towards the problems of fake news.

3. Results

Five teams participated in the hackathon. Each team was tasked to ideate on a Hybrid Intelligence solution, develop a proof of concept and pitch their idea to an independent jury. The teams had in total 1.5 weeks to do so and were supplied with a data set from the Fake News Challenge [2] and a trained model [3]. This data set revolved around the task of stance detection; whether a certain claim was related to a news article, and if so, the article agreed, disagreed or simply discussed the made claim. However, teams were allowed to deviate from this data set and model and address their own identified issue related to fake news. Each team was supported by a coach that helped them ideate and develop their ideas. The coaches consisted of fact checkers, misinformation experts, researchers on Hybrid Intelligence, and software engineers.

The five ideas were fairly diverse and ranged from supporting fact checkers with data-driven insights to supporting the general public to appropriately intervene when their friends or family read fake news articles. The winning concept was for a system that extracts key questions and answers from a news article, followed by a crowd sourcing the answers on the same questions by the general public. The answers offered by the article and public would then be communicated to a fact checker who could use this additional information to classify the article as fake or not. Its purpose was to lessen the strain on fact checkers in checking sources by leveraging a large population of non-experts. It also served to include the societal opinion on what is fake or real news into the fact checking process.

We refer to the hackathon's website for a white paper containing more detailed descriptions of the five developed proof of concepts and their underlying ideas[4].

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