AI Is Here To Stay: Misinformation and Human-Centric Models Between Risks and Opportunities

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1 INTRODUCTION

Artificial intelligence has fascinated the scientific community for almost a century, spurring famous research papers such as Alan Turing's *"Computing Machinery and Intelligence"* in 1950 [15], which introduced the *imitation game*. The idea, trivialized, is that any machine capable of fooling a person into thinking it's speaking to a human can be considered sentient. For seventy-three years the game remained unbeaten, until OpenAI's ChatGPT-4 ultimately succeeded in 2023 [1]. The model, simulating AGI capabilities [4], is one of the last iterations of the Generative Pre-Training LLMs[1] pioneered by OpenAI in 2018 (at the moment of writing the latest available is GPT-5.2) [11], which closely followed the first breakthrough towards human-like agents: *"Attention Is All You Need"* [16] is a 2017 landmark research paper authored by eight Google researchers that introduced the *transformer* architecture, considered the backbone of all modern LLMs and the main contributor of the AI boom [6].

Computer scientists are not the only ones engrossed in the topic: philosophers involved themselves too, most notably Jhon Searle and his 1980s' *chinese room* thought experiment, which directly challenged Turing's ideas and refuted the possibility of true machine intelligence [14], and even the general public showed great interest once AIs became smart enough: ChatGPT reached one million users in just five days [8], an astonishing feat when compared to other technologies such as personal computers, which needed almost ten years to reach the same milestone [12].

Despite all of the above, the field of artificial intelligence comes with its fair share of problems and controversies: due to their inherent design, LLMs pose significant privacy risks as sensitive information is collected and used to create and fine-tune the models themselves [5], and their black-box nature makes it difficult to understand and predict their behavior [17]. Moreover, they are often trained on pirated material, like books [13] or art [7], igniting protests in many creative communities, such as hollywood writers [9] or video game actors [10]. It follows that artificial intelligence technologies should be handled carefully, without hindering their development while limiting the damages they can cause to society and individuals.

[1]Large Language Models (LLMs) are trained with supervised machine learning on vast amount of textual data, and are designed for natural language processing tasks, especially language generation [2, 3]

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[TODO] This survey paper aims to present the current state of research on artificial intelligence, with a focus on ethical an human-centric AI. Section 2 showcase AI for fake-news generation and detection, while section 3 focus on AI trained to recognize, simulate and influence human behaviour, opinions and beliefs. Section 4 concerns itself with biases and tendencies of the language models themselves, and lastly section 5 explores ways to develop ethical LLMs that can positively impact society as whole.

2 AI FOR FAKE NEWS GENERATION AND DETECTION

3 AI ON HUMANS

4 AI OWN BIASES

5 ETHICAL AI

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