# Data Mining: BeeViva Challenges

MARCO BELLÒ, University of Padua, Italy

## 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 [8], 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 [2], is one of the last iterations of the Generative Pre-Training LLMs pioneered by OpenAI in 2018 (at the moment of writing the latest available is GPT-5.2) [5], which closely followed the first breakthrough towards human-like agents: "Attention Is All You Need" [9] 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 [3].

Computer scientists are not the only ones engrossed in the topic: philosophers involved themselves too, most notably with Jhon Searle and his 1980s' *chinese room* thought experiment, which directly challenged Turing's ideas and refuted the possibility of true machine intelligence [7], while even the general public showed great interest once AIs became useful enough: ChatGPT reached one million users in just five days [4], which is an astonishing feat when compared to other technologies such as personal computers, which needed almost ten years to reach the same milestone [6].

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Author's address: Marco Bellò, marco.bello.3@studenti.unipd.it, University of Padua, Padua, Italy.

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