

1 Data Mining: BeeViva Challenges

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7 **1 INTRODUCTION**

8 Artificial intelligence has fascinated the scientific community for almost a century, spurring famous research papers
9 such as Alan Turing's "*Computing Machinery and Intelligence*" in 1950 [8], which introduced the *imitation game*. The
10 idea, trivialized, is that any machine capable of fooling a person into thinking it's speaking to a human can be considered
11 sentient. For seventy-three years the game remained unbeaten, until OpenAI's ChatGPT-4 ultimately succeeded in
12 2023 [1]. The model, simulating AGI capabilities [2], is one of the last iterations of the Generative Pre-Training LLMs
13 pioneered by OpenAI in 2018 (at the moment of writing the latest available is GPT-5.2) [5], which closely followed
14 the first breakthrough towards human-like agents: "Attention Is All You Need" [9] is a 2017 landmark research paper
15 authored by eight Google researchers that introduced the *transformer* architecture, considered the backbone of all
16 modern LLMs and the main contributor of the AI boom [3].
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18 Computer scientists are not the only ones engrossed in the topic: philosophers involved themselves too, most notably
19 with Jhon Searle and his 1980s' *chinese room* thought experiment, which directly challenged Turing's ideas and refuted
20 the possibility of true machine intelligence [7], while even the general public showed great interest once AIs became
21 useful enough: ChatGPT reached one million users in just five days [4], which is an astonishing feat when compared to
22 other technologies such as personal computers, which needed almost ten years to reach the same milestone [6].
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