НАУКОВО-ТЕХНІЧНА КОНФЕРЕНЦІЯ МОЛОДИХ ВЧЕНИХ

Актуальні проблеми інформаційних технологій

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ІМЕНІ ТАРАСА ШЕВЧЕНКА

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NAVIGATING THE AI REVOLUTION: UNRAVELING THE COMPLEXITY OF ARTIFICIAL INTELLIGENCE

In an era where the lines between science fiction and reality blur daily, the term "AI" stands as a beacon of innovation and a catalyst for choice. Picture yourself strolling through a marketplace, a landscape teeming with gadgets that bear the badge of artificial intelligence – from iPhones with voice assistants that seem to know us better than we do ourselves, to refrigerators that autonomously manage our grocery lists [2, p. 132]. This vivid scene sparks curiosity: why haven't we witnessed an army of intelligent vacuum cleaners and laptops assuming control of our lives? The allure of AI is undeniable, but the truth is far more intricate than meets the eye.

The reality, however, is far more intricate than this fanciful notion suggests. Creating artificial intelligence is a task of profound complexity, one that modern scientists do not believe has been fully achieved. Indeed, as of today, none have successfully replicated the intricate functionality of even the simplest of brains, let alone the complexity of the human brain [5, p. 6].

The rapid spread of new functionalities in online services and devices, often referred to as the "AI revolution," has led to the casual and sometimes indiscriminate labeling of a wide array of technologies as "artificial intelligence." This tendency to bestow the label "AI" upon even relatively basic automated systems is a testament to the pervasive influence of artificial intelligence concepts in the public's mind.

In response to this broad and sometimes inaccurate use of the term, the scientific community has recognized the need for a more precise lexicon. Thus, they have introduced specialized terminology such as "Human-level Artificial Intelligence" or "Strong Artificial Intelligence" to categorize and distinguish systems that exhibit higher levels of cognitive complexity and human-like reasoning abilities from their more rudimentary counterparts.

ChatGPT and Midjourney are examples of Narrow or Weak AI [1]. These AI systems are highly specialized and designed for specific tasks. They lack general intelligence and adaptability beyond their specific programming. In contrast, strong or general AI possesses human-like cognitive abilities and adaptability across a wide range of tasks [4].

Human-level Artificial Intelligence, often abbreviated as HAI, refers to AI systems that possess advanced cognitive capabilities resembling human intelligence, including problem-solving, reasoning, and the ability to understand context and learn from experience. These systems have the potential to understand and respond to natural language, engage in complex decision-making, and adapt to novel situations, much like human beings [3].

On the other hand, Strong Artificial Intelligence goes a step further. It encompasses AI systems that not only exhibit human-level cognitive functions but also possess self-awareness and consciousness. While Strong AI remains a topic of philosophical debate and scientific exploration, it represents the ultimate goal of achieving machine intelligence that can genuinely emulate human thought processes [6].

The introduction of these terms underscores the distinction between conventional, task-specific AI applications, which operate based on predefined algorithms and data, and the aspirational goal of creating AI that can rival or surpass human intelligence. These classifications serve as a reminder that, despite the significant strides made in AI technology, the development of true artificial intelligence, capable of replicating the depth and complexity of human thought, remains a formidable scientific challenge.

As we continue to interact with these AI-driven marvels - be it the efficiency of spam filters or the convenience of voice-controlled televisions - it is imperative to acknowledge their impact on our lives. Yet, it is equally vital to grasp the distinction between their capabilities and the boundless potential of the human mind. In this quest for artificial intelligence, we tread a path laden with challenges and possibilities, where the need for precision in terminology underscores the intricate nature of our aspirations. So, as we journey through this AI revolution, let us marvel at its wonders, but let us also cherish the incredible depth and complexity of the human intellect, a horizon that AI is still endeavoring to explore.

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