

# Artificial Intelligence Critique Paper - I

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## 1 Summary:

In "Computing machinery and intelligence," Alan Turing proposes a test for determining whether a machine can be considered intelligent, called the Turing Test. Test involves a human evaluator who engages in natural language conversations with a machine and a human, and must determine which is which. If the machine can consistently fool the evaluator into believing it is human, then it can be considered intelligent. The Turing Test involves a human judge interacting with both a human and a machine. If the machine can successfully convince the judge that it is human, it can be considered intelligent. Turing argues that there is no clear definition of "intelligence," but suggests that the ability to perform tasks that typically require human intelligence, such as natural language processing and problem-solving, could be used as a criterion. He argued that this test is superior to other attempts to define intelligence, such as those based on the ability to solve mathematical problems or to play chess.

## 2 Opinion:

Paper's justifications for machine intelligence are based on Turing's ideas about the nature of thinking, computation and his claim that machines can perform any task that can be described as a set of logical rules. The paper's strengths include its clear and concise argument and the fact that it has been highly influential in the field of AI. The paper's weaknesses include the fact that the Turing Test may not be the most effective way to evaluate machine intelligence and that the paper's assumptions about the nature of thinking and intelligence have been debated. Additionally, the idea of intelligence as the ability to perform tasks that typically require human intelligence is somewhat limiting and may not fully capture the breadth of what we mean by "intelligence". The focus on language-based communication may limit the scope of the test's usefulness as a measure of machine intelligence. The paper's argument for the possibility of machines being able to think and learn is also convincing, although there are some weaknesses in Turing's assumptions about the nature of human cognition.

### 3 Improvements:

One possible improvement to the Turing test could be to develop a more objective and standardized measure of machine intelligence that is not based solely on conversation. This could involve designing a set of tasks that are representative of a range of cognitive abilities, such as perception, reasoning, and decision-making, and testing machines on these tasks in a controlled environment. Additionally, future research could explore alternative methods for evaluating machine intelligence, such as performance on complex tasks that require creative thinking and decision-making. Researchers could investigate alternative ways of measuring machine intelligence that do not rely solely on the Turing Test. The test could be revised to incorporate multiple evaluators with different backgrounds and areas of expertise, in order to more fully capture the complexity of human intelligence. One way to improve the current approach would be to focus on developing more advanced machine learning algorithms that can learn from data and improve themselves. This would require a greater understanding of the cognitive processes that underlie human learning and thinking.

### 4 Questions:

- How does the Turing Test compare to other measures of machine intelligence, such as IQ tests for humans?
- How could machines with advanced intelligence be used to benefit society, and what steps can be taken to prevent their misuse?
- How can we ensure that machines remain under human control if they become more intelligent than us?
- Can the Turing test be modified to incorporate non-human forms of communication, such as gestures or images?