

Paper Reading Template

AI-For-NLP Course Group

Date	2019/10/5~10.6	
Title	COMPUTING MACHINERY AND INTELLIGENCE	
Author	A. M. Turing	
Question/Task	Description	You Answer
1. Classify this paper	Is this paper pragmatic or theoretical? Is this paper on science or engineering?	Theoretical on science
2. Brief Summary	Using the as short as possible to summarize the paper content.	Conjecture on the thinking machine based on turing's current work on Manchester computer and predecessors' work on computer machine.
3. Outline	<p>Outlining the content as multiply parts.</p> <p>For example, for one paper, you may outline the content as following:</p> <ol style="list-style-type: none"> 1. Background 2. The other Researcher's method ... 8. Future Planning <p>And explain how does these outlines work together to make this article completed.</p>	<ol style="list-style-type: none"> 1, The imitation game, the unambiguous test "Can machines think?". 2, The Machines Concerned in the game, we only permit digital computers to take part in our game. 3, Digital Computers, the work process and structure of digital computer: Store, Executive unit and Control. Constructing instruction tables is usually described as "programming". Realize the limit of electrical computer vs human nervous system. Conclusion: "Can machine thinks" should be replaced by "Are there imaginable digital computers which would do well in the imitation game?" 4, List and Analyze Contrary Views on thinking machine. list negative views on thinking machine from theological, mathematical, consciousness, nervous system, informality of behavior and etc. fields, and explain turing's erudition, logic and confidence on the feasibility of a thinking machine in fifty years in future. 5, a thinking machine is a learning machine. Storage capacity is not a main issue but programming is one key issue of

		<p>thinking machine. Produce a program to stimulate the human child mind, educate it and finally let it learn from experience. An important feature of a learning machine is that its teacher will often be very largely ignorant of quite what is going on inside, although he may still be able to some extent to predict his pupil's behavior.</p>
4. Mainly Issue	What is the issue that author want to solve?	A conjecture on the future of digital computer development on intellectual fields.
5. Find the difficult or important words.	<p>Find what words you are not understood and explain it by yourself.</p> <p>Find important words in this article.</p>	<ol style="list-style-type: none"> 1) Conjecture are great importance since they suggest useful lines of research. 2) But I do not think these mysteries (on consciousness) necessarily need to be solved before we can answer the question with which we are concerned in this paper. 3) Instead of trying to produce a program to simulate the adult mind, why not rather try to produce one which simulates the child's?
6. Find the difficult sentences confusing you and explain what they mean.	<p>找出文中你不太懂的句子，试着解释他，最好用另外一种解释方法解释。不要玩文字游戏。</p> <p>例如，《纯理性批判》里有一句话“除了实际存在的事物，没有任何东西能发生作用”。如果你解释成“如果某个东西不存在，那么它就不能发生作用”，这就属于玩文字游戏。比较合理的解释一个例子是“只靠可能会下的雨，青草是不会生长的”或“只靠可能有的存款，一个人的账号是不可能增加的”。</p>	<p>It is probably wise to include a random element in a learning machine. A random element is rather useful when we are searching for a solution of some problem. Suppose for instance we wanted to find a number between 50 and 200 which was equal to the square of the sum of its digits, we might start at 51 then try 52 and go on until we got a number that worked.</p> <p>Alternatively we might choose numbers at random until we got a good one. This method has the advantage that it is unnecessary to keep track of the values that have been tried, but the disadvantage that one may try the same one twice, but this is not very important if there are several solutions. The systematic method has the disadvantage that there may be an enormous block without any solutions in the region which has to be investigated first, Now the learning process may be regarded as a search for a form of behaviour which will satisfy the teacher (or some other criterion). Since there is probably a very large number of satisfactory solutions the random method</p>

		<p>seems to be better than the systematic. It should be noticed that it is used in the analogous process of evolution. But there the systematic method is not possible. How could one keep track of the different genetical combinations that had been tried, so as to avoid trying them again?</p> <p>A quite new mathematical to me. Turing already give an example on this solution real usage on huge genetical data process.</p>
7. Find the main sentences author written.	Find out sentences which could express the intention of author mostly.	<p>We may hope that machines will eventually compete with men in all purely intellectual fields.</p> <p>We can only see a short distance ahead, but we can see plenty there that needs to be done.</p>
8. What have been solved and what not have been solved?	<p>What problems or issues the author have solved?</p> <p>What problems or issues the author haven't solved?</p>	<p>The author had done some experiments with one such child learning machine, and succeeded in teaching it a few things, but the teaching method was too unorthodox for the experiment to be considered really successful.</p> <p>A good learning machine needs, adequate storage capacity and speed, and suitable programming. Neither the author had at his time. But the author tried above.</p>
9. Rethink of the paper	<p>Can you explain the paper main content to others?</p> <p>Can you explain the paper to your wife/husband?</p> <p>Can you explain the paper to a kindergarten pupil?</p> <p>This answer cannot be Yes/No simply. Please write the explanation with integrity.</p>	All yes. The thinking machine is already in our daily life now, and surely imperfect.
10. Which parts do you agree with the author? Why do you agree with these?	<p>Find out the opinions of author that you agree with.</p> <p>Give the reason why do you agree with.</p>	<p>I agree, programming is the main problem of thinking machine.</p> <p>Turing is foresight to put high position of programming on artificial intelligence.</p>
11. Which parts do you not agree with the author?	List the parts or opinions that you do not agree with author.	The author may not consider the commercial application and undervalue the difficulty on both hardware and software to construct a learning digital

		computer. He predict such a machine will be available at the end of 20 century.
<p>12. Why do you not agree with?</p> <p>How can you use these knowledges in your life or in future?</p>	<p>Classify each answer of question 11 as following types:</p> <p>1. uninformed: 信息不足, 必要的信息没有给到;</p> <p>2. Misinformed: 论点与事实相反或不切合;</p> <p>3. Logic Error; 逻辑错误, 例如马基雅维的《君主论》里边: 所有的政府, 不论新或旧, 主要的维持基础在法律, 如果这个政府没有很好的武装力量, 就不会有良好的法律, 也就是说, 只要政府有很好的武装力量, 就会有好的法律。 里边的逻辑错误在于“政府有很好的武装力量”应该是“有好的法律的”必要不重复条件, 依照所述的逻辑, 如果有好的法律, 那么肯定有好的“武装”, 但是有好的“武装”并不一定有好的法律。</p> <p>4. Uncompleted Analysis;</p>	<p>This paper, I cannot find definite logic wrong, but find the author has considered quite enough. The only improper point is that the author is too optimistic on digital computer development, even he had realize the limit of electronic digital computer in page 6.</p> <p>The author said the fact is modern digital computers are electrical and the nervous system is also electric, and so people think digital computer is similar as nervous system. But the author pointed such similarity is only very superficial, because nervous system is more than electrical. In nervous system, chemical phenomena are at least as important as electrical.</p> <p>In 2019, all the digital computers are pure electrical computer and so it may impossible to pass his imitation game with current modern electrical computer.</p>
<p>13. Is this article helpful to you?</p> <p>How can you use these knowledges in your life or in future?</p>	<p>简述这篇文章是否对你有用, 对你以后哪些场景下回使用到?</p>	<p>This article mainly an introduction to AI. No direct help on programming details, but help on whole pic and value on AI, such as the logic arguments on contrary views, such as selecting random element solution vs systematical loop select, especially to treat AI program as a child to educate value.</p>