**Unit Five Artificial Intelligence**

**预习任务**：Read the article below and please:

1. think about the question: To what extent, do you agree with the statement “Robots will one day replace humans as the workforce in all fields.” Explain your opinion.
2. Give notice to the highlighted words (refer to dictionary when necessary) and underlined sentences.
3. Mark the difficult sentences and words.

**Reading 1**

**Working with Robots:**

**Human and Machine Coexistence in the Workforce**

*Adam C. Uzialko*

1 The pervasive fear that artificial intelligence (AI) will take over human economic livelihood has been felt in places like the manufacturing sector, as large areas of the industry automate labor formerly done by humans. However, proponents of machine learning say ultimately AI and robotics will improve the way we do virtually everything, and ultimately create new jobs.

2 Still, nearly 40 percent of U.S. jobs were slated as a “high risk” for automation by the early 2030s in a March 2017 report by PricewaterhouseCoopers (PwC). While the PwC report acknowledges it’s unlikely all those jobs will be automated for “a variety of economic, legal, and regulatory reasons,” PwC also acknowledges that new tech typically means the creation of new jobs for human workers as well, conceding “the net impact of automation on total employment is therefore unclear.”

3 Many technologists claim that the new job creation will offset some of the pain of displacement; retraining programs and continuing education opportunities are key to bringing in displaced workers into the new high-tech fold.

4 “Ever since the industrial revolution, we’ve created technology that in theory has displaced workers, and yet growth continues,” Chris Volinsky, assistant Vice President of inventive science at AT&T Labs, told Business News Daily. “It’s a displacement of work from more humble tasks to those tasks which require more education and more technology, so work gets displaced, but workers are constantly evolving and being retrained.”

5 However, the pace of technological growth is so fast that many workers might not find this a truly viable option, said Moshe Vardi, professor of computer science at Rice University and fellow at the Institute of Electrical and Electronics Engineers.

6 “As AI becomes more effective and complex, the zone of ‘automated jobs’ will continue to widen across industries and verticals,” Vardi said. “Workers are racing against the machines, and to stay ahead of the game, they need to be willing to continually refresh and upgrade their skills. The jobs least likely to be automated are those that combine nonroutine technical skills in combination with people skills.”

7 **What’s on the horizon?**

The pace of change has workers both excited and anxious about what the future holds. According to a survey conducted by Atlassian, 87 percent of respondents expect AI to change their jobs by 2020, with 76 percent responding that some or half of their job could be performed by an algorithm or robot. And while 64 percent said they trust AI’s ability to properly complete a task, 80 percent are concerned about a subsequent spike in unemployment.

8 “If harnessed correctly, AI can become our team’s ‘sixth man’, moving beyond digital assistants and chatbots, and freeing up time and brains for us to tackle society’s most complex problems,” Atlassian’s report reads.

9 “AI is, first and foremost, a tool that makes humans more productive, not unlike a hammer or a steam shovel,” said Manuel Ebert, founder of AI and machine intelligence consultancy summer.ai. “If one human can produce more in the same time, that means we need fewer humans to satisfy the same demand. That is where displacement comes from.”

10 However, Ebert continued, when productivity increases and costs decrease, often the demand for those goods and services increases and helps drive the creation of new jobs.

11 “Think the printing press and books or the assembly line and cars,” he said. “So, the interesting question is where can AI create demand for things that were previously (prohibitively) expensive?”

12 The PwC report anticipates a rise in average pretax incomes because of mass adoption but acknowledges “these benefits may not be evenly spread across income groups.”

13 “There is therefore a case for some form of government intervention to ensure that the potential gains from automation are shared more widely across society through policies like increased investment in vocational education and training,” the report reads.

14 Others have suggested a universal basic income of some kind, which would essentially offer payments to citizens that could cover necessities like groceries or rent and mortgage payments.

15 **How will the job market transition into automation?**

While it is generally agreed that some steps need to be taken to relieve the pain of transition, AI proponents like Volinsky argue that the benefits of these technologies far outweigh the negatives. For example, he said, AT&T is utilizing drones and machine learning to accelerate inspection and maintenance of cell towers. Instead of sending a worker up, the company now flies drones to inspect the antennae.

16 “(The drone) flies up with HD video and sends footage back to a technician on the ground to inspect,” Volinsky said. “It might take a half hour to do a full detailed inspection of one of those towers, even though the technician is only interested in certain parts of that video.”

17 That’s where AI comes in: Machine learning can be used to identify potential problem areas and highlight key points of interest the human technician needs to analyze, Volinsky said. By doing so, it can reduce the half hour task to a matter of minutes, removing the technician’s need to scan through useless pieces of video to find the value.

18 AI is also making headway in customer service, internal decision-making and the way companies track their customer relationships, to name a few examples. Each of these inroads represent only the beginning of the AI revolution, Volinsky said, and these tools will be essential as they proliferate.

19 “I like to think of AI as taking the dull and routine parts out of people’s work and helping humans focus on their real expertise, which is identifying problems and focusing on what else needs to be done,” Volinsky said.

20 As AI more prominently enters the workforce, humans will need to prepare for continued waves of automation by learning new skills and adapting to a changing economy, while harnessing the capabilities of AI to solve problems that were previously out of reach. A symbiotic relationship between man and machine, then, appears far more desirable than a war for prominence.

 (991 words)

***词汇学习点滴：***

***Study the word building skill in the box and work on the tasks below.***

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| **Word Building Skill —Antonymy (反义关系) (I): classification** |
| Antonymy is the semantic relation between antonyms. An antonym is a word that has the opposite meaning of another word. For example, “empty” is an antonym of “full”. Antonymy can be classified into three types:* + **Gradable antonymy (分级反义):** There is scale or degree between antonyms. For example, “beautiful” and “ugly” are gradable antonyms, we can put “good-looking” and “plain” between this pair of antonyms.
	+ **Complementary antonymy (互补反义):** The denial of one word means the assertion of the other. There is no intermediate ground between the two of them, e.g. “alive” and “dead”.
	+ **Relational antonymy (关系反义):** Two words have opposite meanings, where opposite makes sense only in the context of the relationship between the two meanings. For example, if A “lends” money to B, B “borrows” money from A.
 |

*Classify the following pairs of antonyms.*

|  |
| --- |
| male — female hot — cold buy — sell old — young give — receive husband — wife love — hate present — absentsingle — married rich — poor above — below on — off |

1. Gradable antonymy:

Type your answers here:

1. Complementary antonymy:

 Type your answers here:

3) Relational antonymy:

Type your answers here: