Research on the Development of Artificial Intelligence in China

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ABSTRACT

The development and progress of artificial intelligence (AI) has greatly changed people’s ways of production and life. At this stage, the rise of all kinds of terminal products and industry due to artificial intelligence rapid rise, it promotes the development of the country, social and individuals, but at the same time, as a result of artificial intelligence in benefiting the nation, society and individual human beings, the lack of critical thinking has caused many in the formulation of laws and regulations, employment and ethical issues. Take one-dimensional people, Marcuse profoundly pointed out the absence of critical thinking and the rule of science and technology on state, society and individual. Whether the artificial intelligence can bring people benefits and convenience while correctly applying critical thinking to deal with the crisis caused by it becomes the key factor for the artificial intelligence to continue to better benefit mankind.¹

KEYWORDS

Marcuse; Critical Thinking; Artificial Intelligence

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INTRODUCTION

There are different views on the definition of Artificial Intelligence (AI, for short). For example, “AI is a comprehensive and new subject developed by the interpenetration of computer science, cybernetics, information theory, neurophysiology, psychology, linguistics, etc, and its birth can be traced back to the mid-1950s”[1] Another example is “the central goal of artificial intelligence is to figure out how to realize artificial intelligence and make computers smarter and more useful.”[2] From the point of the research status at home and abroad, domestic academia mainly concentrated on the study of artificial intelligence in as one aspect of artificial intelligence and it’s negative influence, and carries on the analysis put forward the corresponding solution path, such as Xianquan Liu from East China University of Political Science and Law Institute, concerns “the arrival of the age of the artificial intelligence will bring risk, the risk of criminal may make some traditional crime harm ‘quantity’, may lead to a new form of crime, and artificial intelligence product may out of human control because of a variety of reasons, which cause serious damage to social crime.”[3] Foreign academia’s research pays more attention to the development of AI will bring what benefits to human beings and their solutions, Bourton, Sam, Lavoie, Johanne, Vogel and Tiffany think “AI can do something for those who try to become more agile and cultivate the innovative method within leaders provide great help.”[4]Whether at home or abroad for the negative effects caused by the artificial intelligence on the path of the research is not comprehensive enough reason or reality, this paper mainly analyzes the current situation of the development of the artificial intelligence, its application in China and all kinds of social problems; It also tries to find out the inner reasons and path in order to promote better benefits to human a lot on artificial intelligence.

DEVELOPMENT OF ARTIFICIAL INTELLIGENCE IN CHINA

Artificial Intelligence was firstly proposed at Dartmouth in 1956. “it is a new technical science to study and develop theories, methods, technologies and application systems for simulating, extending and extending human intelligence.”[5] The development of artificial intelligence is both an opportunity and a challenge for China. Since the introduction of AI, Chinese government has attached great importance to the development of AI in China and have made remarkable achievements both in actual operation. General secretary Jinping Xi pointed out that “we are in the period of a new round of scientific and technological revolution, industrial transformation and a new generation of information technology, represented by the Internet, big data and artificial intelligence is changing each day.”[6]Artificial intelligence has made real achievements in real life. According to the distribution map of global AI enterprises, the number of AI enterprises in China has been growing rapidly since 2012. By June 2018, the number of AI enterprises in China has reached 1,011 (excluding Hong Kong, Macao and Taiwan), ranking
second in the world. But the gap with the United States is still very clear (2,028). Although it does not exceed the number of AI enterprises in the United States, it can be seen that the rapid development of AI in China in recent years has attracted many enterprises.

1. Intelligent speakers. Artificial intelligence has been widely used in many industries. Canalys, an Intelligent speakers, a research firm, released in May this year according to the latest data, Google has more than Amazon into global intelligent speaker market first. “Google sold 3.2 million smart speakers in the first quarter of 2018, with a market share of 27.7 percent. Chinese brands Alibaba Tmall and Xiaomi ranked third and fourth in the global smart speaker market in the first quarter, with market shares of 11.8% and 7.0% respectively.”[7] The emergence of smart health care, smart security, smart home, smart finance and smart grid is the most explicit response. In terms of medical treatment, doctors in the past mainly relied on personal experience. Since the emergence of intelligent medical treatment, people have applied it to auxiliary materials for doctors’ diagnosis, and used this technology to diagnose various diseases, such as uterine cancer and ovarian cancer, greatly reducing the misdiagnosis of previous artificial diagnosis. In terms of security, it has been used in cases where police track prisoners, by counting the number of vehicles, and by screening surveillance videos. It can save much time to find and trace the killer, and the use of civilian monitors effectively reduces the infringement of human life and property by various criminals. In household respect, the use of intelligent household enriches people’s life on the one hand, convenient people’s life.

2. Intelligent robot. “China has become the world’s largest industrial robot market since 2013, and the scale of China’s industrial robot industry has maintained 20 percent rapid growth in the past five years. According to Wind data, the output of industrial robots in China in 2015-2017 was 32996, 72426 and 131,079, respectively, exceeded 100,000 units for the first time in 2017.”[8] For example, people can control household appliances independently through sound, and use all kinds of automated kitchenware and kitchens. On the other hand, the use of smart appliances can effectively prevent bad people from entering the home, causing damage to personnel and property. In terms of robot in finance, the use of smart finance can use science and technology to track user information, so as to effectively protect users’ property from infringement. In terms of robot in power grid, the use of the smart grid can real-time monitoring to the user’s electricity consumption, to ensure that users of electricity is not affected, able to take advantage of science and technology of monitoring anytime and anywhere to circuit loss situation, timely repair for power grid, greatly improving the search for the accuracy and timeliness of the fault power grid, to be able to predict in advance the potential threat to the power grid, provide reliable basis for repairing grid, convenient for people’s life.

3. UAV. “According to the latest earnings data released by DJI, a well-known domestic drone enterprise, its revenue in 2017 reached 17.57 billion yuan, up 79.6 percent year-on-year. Data from sky logic Research, a market research company for
the unmanned aerial vehicle industry, shows that DJI accounts for 50% of the entire North American drone market. In the $500 to $1,000 drone market, which is mainly used for filming, DJI accounted for 36 percent of all sales in North America in 2017. DJI has 66% of the North American drone market, which costs between $1,000 and $2,000. DJI has a 67 per cent share of the market for drones priced between 2,000 and 4,000 dollars.”[9] Thus, not only the state and the government attaches great importance to the development of artificial intelligence, the product itself in all aspects in recent years has made significant development, constantly changing people’s production and life style and promote the development of the productive forces, it also has a large consumer market in China.

NEGATIVE IMPACT CAUSED BY ARTIFICIAL INTELLIGENCE AND ITS REASONS

The emergence of artificial intelligence and its progress to the country, social and personal life which has brought many benefits, but there is no denying that there are many new difficulties and challenges, just as Marcuse said, “the development of science and technology has greatly promoted the development of human society, therefore, the spirit of science, science of thinking as well as the scientific method is applied to all fields, which ultimately makes politics, culture and language become dissimilation.”[10] Therefore, we must grasp this development opportunity and handle the new issues raised by AI in the areas of law, security, employment and ethics.

Negative Impact

LEGAL POLICY ISSUES

In recent years, the rapid development of artificial intelligence has brought many hidden dangers in legal policies. The protection of intellectual property rights is duty-bound, as stated in the 19th CPC report on intellectual property rights. However, due to the development of artificial intelligence, some people use technology to steal other people’s innovative products and technologies have to attract people’s attention. Similarly, privacy issues, such as account privacy and racial discrimination in the area of image recognition have been prominent. It also appeared in the field of speech recognition of gender and racial discrimination, ethics and sound protection. The problems in the advertising field mainly focus on user collection and use, algorithmic discrimination and other aspects. In the advertising service of Google, men see more high-paying recruitment advertisements than women. How to regulate the discrimination on gender and race all countries has conducted positive theoretical analysis and practical discussion and formulated relevant laws, regulations and policies, but the problem still exists and the severity of the problem still cannot be ignored.
PROBLEM OF EMPLOYMENT

The invention of the science and technology for deep impact on China’s employment problem, especially the emergence of intelligent robot. On the one hand, it is worse for manual workers, pure manual labor doesn’t need much professional knowledge or technology, such as security person, ordinary factory workers is the most easy to replace the profession, this will cause a lot of ordinary workers unemployed; On the other hand, the development of science and technology of jobs is more and more challenging, it is required a high level of science and technology for talents, this undoubtedly for people who want to have a place in society proposes a bigger challenge. As Pan thinks in multiple impacts of AI technology development on employment and countermeasures that “there is a great degree of uncertainty in the impact of AI development on employment scale, and the impact on employment structure will be reflected in the two-pole growth trend of high and low-end jobs.” [11] At the same time, with the development of AI, some new jobs are producing, such as robot coordinator, its main function is to dispatch the robot, and unmanned aerial vehicle (UAV) control architect, planner of life comes to an end, the intelligent medical equipment, smart grid, smart financial, the emergence of intelligent security jobs have greatly reduced the required personnel, combined with a sharp rise in China’s fresh out of college and graduate students each year, people’s livelihood issues in employment has become the largest problem.

ETHICAL ISSUES

The huge wave of unemployment not only brings people pressure on employment, but also follows a series of ethical and moral problems. Because the discomfort of unemployment caused by the psychological problems of human being itself, factory workers frequently jump off a building suicide, depression caused the emergence of the social order of chaos, social unrest. The occurrence of left-behind children and empty-nesters caused a series of social ethical issues. To some extent, it alleviates the problems of intelligent robot, such as intelligent robot can be the old man’s children or children’s parents don’t have time to accompany their parents or their children, but any robots applied to children and the elderly, escort robot in dealing with the elder children seems simple but old people or children will produce the dependence and emotion to the robot; Children use all kinds of intelligent learning machines, resulting in the over-reliance on smart learning machines and mobile phones, as well as the resulting physical and visual problems who should be responsible; How to define liability for the frequent traffic accidents of pilotless automobile; Who is responsible for the leakage of various privacy issues such as the repeated theft of bank credit card passwords, and the emergence of a series of ethical issues has posed greater challenges to the government, enterprises, society and human beings.
Reason: The Lack of Critical Thinking

Marcuse pointed out that the progress of science and technology has become an important reason for the objectification of people in capitalist society. However, the saddest thing is that they do not know their objectification, and they are not aware of their objectification. They are satisfied with their current state of existence or do not think about the consequences brought by technology, namely, the lack of critical thinking. Therefore, first of all, we designed the artificial intelligence understanding questionnaire for the critical thinking of people at present, and drew relevant conclusions by analyzing the data in the questionnaire.

From question 4, we can see that 48% of people occasionally use AI products, and 30% of people often use AI products. It can be seen that AI products have been common in people’s life.

TABLE I. QUESTION 4: HAVE YOU USED THE PRODUCT OF ARTIFICIAL INTELLIGENCE.

|          | Percentage |
|----------|------------|
| never before | 28%        |
| occasionally use | 42%     |
| frequently use | 30%       |

TABLE II. QUESTION 6: WHAT DO YOU THINK ARTIFICIAL INTELLIGENCE PRODUCTS ARE GREATLY INFLUENCED THE PROGRESS OF HUMAN SOCIETY FOR THE FUTURE.

|                      | Percentage |
|----------------------|------------|
| have never thought   | 32%        |
| not too big          | 24%        |
| will be a big        | 39%        |
| make no difference   | 5%         |

TABLE III. QUESTION 7: DO YOU THINK THE NEGATIVE IMPACT OF AI PRODUCTS ON HUMAN SOCIETY IN THE FUTURE IS GREAT.

|                      | Percentage |
|----------------------|------------|
| have never thought   | 47%        |
| not too big          | 24%        |
| will be a big        | 24%        |
| make no difference   | 5%         |
As can be seen from questions 6 and 7, whether artificial intelligence products play a progressive or regressive role in the future society, 32% and 47% have not thought about this problem.

From figure 8, we can see that the reasons for the negative consequences of artificial intelligence are still 65% of people who have not thought about it. From figure 9, we can see that 70% of people have not thought about the solutions to the negative effects of artificial intelligence.

Thus it can be seen that people living in the era where artificial intelligence brings convenience, few people think about the negative effects brought by artificial intelligence and the ways to solve these negative effects, but only enjoy such “good life” blindly and dialectical thinking has been lost unconsciously.

Marcuse thinks in the one-dimensional man that people lose their critical thinking because of the development of capitalist economy, As “in critical theory system, the people who live in the industrial society, under the ideology of science and technology, the lost heart of negative critical principle and the pursuit of freedom, leading to social presents a one dimensional integral picture, concrete can be characterized by political one, the one culture, thoughts and one-dimensional.”[12] “One-dimensional person”, as the name implies, is a person who goes or to think about problems in one direction. The biggest characteristic of “one way person” is the loss of critical thinking. Marcuse attributed the formation of “one-dimensional person” to science and technology itself. Obviously, it is
debatably to blame it on science and technology, but people only blindly think positively, while losing critical thinking is still worth learning. In recent years, the development of artificial intelligence has profoundly changed people’s lives. A series of social problems are sounding the alarm for mankind while they are immersed in the material lives brought by science and technology.

LACK OF CRITICAL THINKING WHEN ARTIFICIAL INTELLIGENCE BENEFITS THE COUNTRY

The absence of critical thinking when AI benefits the country is that AI technology has begun to restrain the development of the country. (1) At present, the competition between China and other countries mainly lies in the competition of science and technology. AI, the development of science and technology could improve the ability of human transformation of nature. For example, the national air and space undertakings, Internet +, core product manufacture and so on for the human to study further update field provides the possibility of competition among nations is no longer as before face-to-face conflict, and has been converted into the competition of science and technology, science and technology has become an increasingly important status in the competition between countries; (2) the promotion of international status depends on the progress of artificial intelligence. Today, as the leading industry, artificial intelligence is more affecting the country’s comprehensive national strength of ascension, it becomes an important indicator to measure a country’s comprehensive national strength, and the latter affects its international status, China’s transition from the weakness to the nearness of the center of the world, lies in the progress of science and technology; (3) the cultivation of national talents attaches more importance to innovative talents in science and technology. Talents play an important role in the development of the country. Nowadays, the competition has become the competition of science and technology, and the talents as the carrier of science and technology are an important force that cannot be ignored. In particular, the innovative scientific and technological talents have attracted the attention of the country and become the key training object of the country.

LACK OF CRITICAL THINKING WHEN ARTIFICIAL INTELLIGENCE BENEFITS SOCIETY

The absence of critical thinking when AI benefits the society is that AI has begun to restrain and rule the development of the society. There are main manifestations: (1) the economic development of society depends on the progress of science and technology such as artificial intelligence. The emergence of artificial intelligence has brought many new products for the development of society and progress has brought a lot of new power, the use of a variety of intelligent transportation greatly promoted the developing of the society, but it is too convince, people have not gone to think about sorts of problems caused by artificial
intelligence. (2) The development of social civilization is closely related to artificial intelligence. The emergence of many scientific and technological products has improved mankind’s ability to transform nature. The third scientific and technological revolution has brought human society into the information age. (3) The development of science and technology such as artificial intelligence has been closely linked with social civilization. Artificial intelligence products have filled with the whole society. From the daily life of every individual in the society to the economic, political and cultural development of the whole society, artificial intelligence has become an inevitable link for people to do things and think about problems.

LACK OF CRITICAL THINKING WHEN ARTIFICIAL INTELLIGENCE BENEFITS INDIVIDUALS

The absence of critical thinking when AI benefits individuals means that AI has begun to restrain the development of the ruling people. (1) Various kinds of electronic artificial intelligence products have affected people’s life in a quiet way. Whether it is some intelligent audio box, intelligent robot and other terminal products of artificial intelligence, or intelligent medical care, intelligent home and other industries that are closely related to human life, they have been influencing people’s production mode and life style all the time. (2) People have become dependent on intelligent products. For example, the emergence of smart phones makes human life more convenient and fast. People have gradually become accustomed to this convenient life. The intellectualization of life rhythm has become the most common thing in people’s eyes, and has become inseparable from the reliance on intelligent products. (3) People have formed positive thinking on artificial intelligence. Every smart products appeared before one aspect to improve the problem of insufficient in this respect, of course, more convenient to people’s lives. As a result, people just get from the product conveniently, and not to think about what adverse effect it will bring-only the positive thinking, lack of the negative one.

In short, no matter whether artificial intelligence is the domination of the country, society or individuals, its result is the absence of people’s critical thinking, while the ideological neglect is the most important reason for various artificial intelligence problems.

THE REVELATION OF ARTIFICIAL INTELLIGENCE: THE ESTABLISHMENT OF CRITICAL THINKING

The establishment of critical thinking helps us to have a clearer understanding of the world around us and make correct and rational judgments about things. Especially, the establishment of problem awareness and innovative thinking is inseparable from critical thinking for students, therefore, the establishment of critical thinking is of great significance.
Those Who Exist Consciously Cultivate Themselves

The establishment of critical thinking is not an overnight effort, it is a long-term training and training process. Those who exist should be consciously cultivated according to their specific conditions. (1) Value the learning of theory. A certain theoretical basis and critical thinking can be justified and convincing, therefore, some students should learn Marxist theory, the socialist core values, by using the theory of Marxist thoughts on other screening to regulate the behavior of individuals with the socialist core values, regularly reflect on their own learning knowledge, summarized earnestly, good at thinking for all kinds of phenomena in life, for example, we should make a right assessment of AI, not just look at its superficial benefits. (2) Focus on practice. In 1993, Jinping Xi wrote in I am the Son of the Yellow Land: “when I came to the yellow land at the age of 15, I was confused and hesitated. By the time I left the yellow earth at 22, I was already determined and confident. More than 7 years of experience of living in the countryside, I know what is practical, what is the masses, it’s the biggest harvest.” [13] Practice is the only standard for testing truth, the source of knowledge, and the establishment of critical thinking depends on practice. The same practice process may lead different practice results. Therefore, participation in practice activities often leads to different things, different situations, different understanding of the same thing, and the formation of critical thinking. In short, it is indispensable for students to learn the theoretical and practical thinking.

External Factors Such as Country, School and Family Influence

The development of critical thinking also depends on a certain external environment, especially for young students who are forming their world outlook, outlook on life and values. (1) The country. The country cannot develop without science and technology, but it is worth noting that the country should also attach importance to the cultivation of people ‘critical thinking. (2) Families. Each family is the first place for people to learn, and parents are the first teachers of children. To build children’s critical thinking has decisive meaning to some extent, the story of Mencius’s mother immigrated for three times, Zeng Guofan family precepts and Yan Shi family precepts are the good examples to the emphasis on the importance of the parents, children thinking can be trained through a variety of games and some little drops, everyday life lets the child has a new understanding on the world. (3) Schools. Teachers as the main body of schools, they communicate directly with the students and stay longer than student families, teaching methods and content in different degree will be an important impact on the minds of students. Therefore, and teachers should change their mode according to the concrete situation of students, such as their aptitude, interest. Schools should transform development patterns, organize some extracurricular activities to induce a variety of innovative ideas so as to form the habit of critical thinking in our daily life gradually. The society should also unite with families and schools to make concerted efforts
training socialist successors with critical thinking as well as all-round development of morality, intelligence, body and labor.

CONCLUSIONS

The existence of critical thinking is essential for the country and society. Jinping Xi stressed, “In today’s world, science and technology are developing rapidly. Universities should aim at the world’s leading edge of science and technology and strengthen innovation in key generic technologies, leading technologies, modern engineering technologies and disruptive technologies. To foster a large number of strategy of science and technology talents with international level, science and technology talents, young talent and high level of science and technology innovation team, strive to achieve a prospective fundamental research, lead the original work of the major breakthrough.”[14] The development of artificial intelligence to cultivate talents of science and technology provides a good platform, it is favored by domestic and foreign, but it’s obvious of its disastrous consequences, so critical thinking is necessary. By the critical thinking, we believe that the science and technology can solve a series of questions effectively and benefit the mankind better.

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