

INSIGHTS

AI Governance Should Conform to Human Values

Voice of the World

By GONG Qian & Zhong Jianli

"It is a question worth thinking about — how each country manages their AI development, while upholding the principle of the common values of humankind as the rule of joint governance of AI," said Gao Shaolin, a consultant at the Legal Artificial Intelligence Research Center at Peking University, speaking at the Digital Economy Forum, a part of the 19th Annual Beijing-Tokyo Forum, in Beijing on October 19.

The Digital Economy Forum this year focused on construction of a digital society and joint governance of artificial intelligence. The scholars and industry participants from China and Japan shared their insights on the topic, and discussed how two countries strengthen cooperation in building a digital society and AI management.

Challenges and opportunities

AI is changing people's life, work and social structure at unprecedented speed.

After OpenAI released ChatGPT, generative AI has witnessed an explosive growth, creating a technological innovation boom around the world. According to Goldman Sachs, generative AI can drive global GDP growth by 7 percent, adding 7 trillion USD in GDP, and the AI industry will usher in the 3.0 era.

Yi Chuang, General Manager of Japan, SenseTime Asia Pacific Business Group, said that China has the most active market in generative AI. In the first half of 2023, more than 120 large model AI products were released, including 79 large models with above one billion parameters, and at least 20 general large models.

Though the rapid development of AI technology has brought great opportunities, technical and ethical challenges al-



The Digital Economy Forum, a part of the 19th Annual Beijing-Tokyo Forum, is held in Beijing on October 19. (PHOTO: ZHOU Weihai/S&T Daily)

so pose unpredictable risks to humanity.

Toshio Iwamoto, Principal Executive Advisor of NTT Data Corporation, said that AI could lead to misinformation and joblessness. Particularly, the people-to-people relationship will be replaced by the people-to-AI relationship.

Fumihiko Kamio, Nomura Research Institute's Director of Research, also said that generative AI would cause major risks in data security and personal information protection and algorithms, along with ethical issues, and intellectual property infringement.

Responding to their concern, Liu Song, Vice president of PingCAP (Beijing) Technology Co. Ltd., said, "It is not AI that replaces human beings, but people who have mastered AI technology that replace people who have not."

People-oriented development

Participants agreed that AI development and application should be "people-oriented," thus ultimately serving for the wellbeing of humankind.

Gao said China has always actively advocated "putting people first" and "tech for good." He said that the Global AI Governance Initiative, issued by

China on October 18, provides Chinese solution to the AI development. The initiative systematically outlines China's proposals on AI governance from three aspects, namely, the development, security and governance of AI. He also noted that AI governance can be strengthened through laws, ethics and international cooperation.

Iwamoto said that the use of AI must contribute to the survival, dignity and happiness of human beings, and that security and privacy protection must be ensured.

Inclusive digital society

The construction of a digital society should attach importance to its universality and make AI beneficial to people's livelihood.

Zhang Xiaodan, vice president of Global Tone Communication Technology Co. Ltd., shared a digital transformation solution for the traditional manufacturing industry. Her company provides an Internet platform to help textile enterprises increase their production efficiency and the production of employees by 20 and 8 percent, respectively, and reduce the work intensity of employees by

20 percent.

Zhu Rongsheng, a research associate at the Center for International Security and Strategy of Tsinghua University, said China and Japan can try to put forward AI development and governance principles, so as to meet the needs of East Asia integration. Zhu proposed that both sides could develop the related issues included in the Regional Comprehensive Economic Partnership agreement.

Given the social challenges facing both China and Japan, including aging, low birth-rate and economic transformation, Yi said that in the era of AI 3.0, the business communities of the two countries can work together to use new technologies to solve these problems, and prevent privacy protection and technology ethics caused by new technologies.

As for expanding cooperation, Zhu suggested that the attendees can establish a working mechanism. Based on the basic principles in AI of bilateral cooperation as a framework, forum participants could forward a proposal to the policymakers, contributing to the digital economic cooperation between the two countries.

Openness, Cooperation Boost Sci-tech Development

Opinion

By QI Liming

Openness and cooperation are inherent requirements for promoting scientific and technological progress. It is through sci-tech innovation that we can jointly explore ways and means to solve major global issues and meet the challenges of our time. At the recent Nanjing International Science and Technology Cooperation and Exchange Conference, officials, counselors, entrepreneurs and scholars from home and abroad gathered to discuss ways to seek more opportunities in cooperation and how to specifically achieve that.

Safe and sound mechanism

China has become an important participant in international cutting-edge innovation and a pivotal contributor to jointly solving global problems, according to Zhuang Jia, deputy director of China Science and Technology Exchange Center.

"It is all the more necessary for the

international community to further strengthen cooperation and build a long-term, stable and diversified mechanism and platform for exchanges and cooperation," she explained.

Meanwhile, Wang Yuanhua, deputy director of Nanjing Municipal Science and Technology Bureau, told the conference that for joint R&D, it is essential to effectively transfer sci-tech achievements and build a transformation system for technology transfer. "We need to make every effort to build the talent resources pooling system, full chain innovation ecosystem, and international sci-tech network of cooperation," said Wang.

Lorenzo Gonzo, senior advisor of Bruno Kessler Foundation for international collaboration, shared opinions on redefining urban living standards by harnessing technology. Enhancing mobility and transportation, revolutionizing infrastructure and enhancing livability and health are vital to global development. "Enhancing technology is not just about gadgets or infrastructure, but [more] about fundamentally improving the quality of lives in cities. City planners,

technologists and the public should collaborate and innovate together, harnessing technology's vast potential to create a future where cities are hubs of sustainability, health and harmony," said Gonzo.

Sci-tech achievements with partnerships

Research cooperation and tech-based partnerships with China are for the interests of both sides, said Adrian Gutiérrez, science and technology counselor of the Spanish Embassy in China.

Gutiérrez believes that today there is no hesitation of the global nature of science innovation, and how international cooperation has valued skills in order to find solutions to the challenges that our societies are confronted with. The sci-tech collaboration between Spain and China is a vivid example, he added.

Activities such as resource docking, international technology transfer, and innovation and entrepreneurship competitions are the catalysts to stimulate the vitality of innovation and competition, and help sci-tech achievements in the lab transfer into industrialization in the factory. Making these comments, Sally

Capp, the mayor of Melbourne, Australia, added that, "The friendly relations between the cities [of Nanjing and Melbourne], have been extensive and in-depth with fruitful results."

In addition to the advice from macro, meso, and micro levels, Jimmy Yun, fellow of the Australian Academy of Technology and Engineering, said that the sci-tech exchange platform is critical and it's a good way to learn about different modes of cutting carbon emissions. He also spoke about the storage and secondary conversion of hydrogen energy, and the important role of catalysts in this field.

Cultural philosophy integration path exploration, and the pros and cons of AI, which will usher in an era of abundance, was another topic of interest discussed by Andy Mok, senior research fellow of Center for China and Globalization.

Meanwhile, 14 international joint R&D project agreements have been signed at the conference. The unveiling ceremony of the Jiangsu-Hong Kong Youth Innovation and Entrepreneurship Base was also held at the event.

Dating with CIIE

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"At last year's expo, we discussed about 200 projects with our partners," said Higashitani, speaking highly of CIIE's role in bringing new opportunities, promoting global trade, and linking innovation resources.

Vale also values the cooperation and exchange opportunities provided by CIIE. "There is no other place like CIIE where we could engage such a variety of key stakeholders in one place and within one week," said Xie, adding that, "We will also leverage this year's CIIE to pro-

mote Vale's corporate venture capital initiative, to attract innovative startups in China to become our new partners."

Following Vale, Rio Tinto and BHP also came to CIIE last year. This year, the big three iron ore miners will meet again at the expo. "This makes CIIE even more attractive as we could take the opportunity of CIIE to learn from each other," said Xie.

Bullish on China

CIIE sends a positive signal of China's comprehensive expansion of high-quality opening up and strengthening international cooperation, and will inject greater

confidence into multinational companies in China, said Pointeau.

The Chinese market has turned into a major opportunity for the world, said Pointeau, vowing that, "In China, for China" is Pfizer's unwavering commitment.

Holding CIIE on an annual basis demonstrates China's determination to promote high-standard opening up and share market opportunities with the rest of the world, which is very encouraging for foreign companies, said Xie.

"We will uphold a long-term com-

mitment to the Chinese market and always put China at the center of our business strategy," said Xie, noting that since 2016, China has become the largest market of Vale.

CIIE presents a unique opportunity for Omron to tap into China's vast market, said Higashitani, indicating that Omron will roll out more innovative health products and technologies catering to the Chinese market.

"China is our largest market with biggest potential, and we strive to grow with China," said Higashitani.

Comment

Why U.S. Tech Blockade Won't Work

By GONG Qian

The U.S. has been expanding its export control of China's tech industry by adding more Chinese entities to the "unverified list" of its Bureau of Industry and Security, Department of Commerce.

On October 17, it updated and broadened its export controls to stop China from acquiring advanced computer chips and the equipment to manufacture them.

Prior to that, the Biden administration had also already released a sweeping set of economic rules to prevent China from purchasing advanced equipment and acquiring relevant technology, thus accelerating decoupling from Beijing in the semiconductor industry.

Though American politicians believe its core interest lies in safeguarding tech hegemony, the fact is that the tech blockade not only directly harms its economic interests, but also has a negative impact on its technological progress.

The U.S. may suffer difficulties due to its wrong decision, though the arrogant Uncle Sam won't admit it. *The New York Times* (NYT) reported in early October that the big U.S. chip makers like Nvidia, Intel and Qualcomm have campaigned to protect their business with China.

Actually, Bloomberg reported in July that these chip manufacturers were planning to lobby against extending restrictions on the sale to China of certain chips and the equipment to manufacture the semiconductors that the Biden administration was set to roll out.

They said being cut off from their largest market will harm their ability to spend on advancing their technology and ultimately undermine U.S. lead-

ership. This ongoing lobbying has led to a delay in new restrictions, said NYT.

"An unintended consequence of U.S. export controls on advanced chip technology to China may be a wave of state-backed investment leading to overproduction and, potentially, Chinese dominance of global legacy chip production," said a report by a U.S. think tank the Center for Strategic and International Studies.

Both U.S. industry professionals and analysts would admit that the U.S. crackdown on China's semiconductor industry cannot stop China's progress. It will actually accelerate its development of an independent domestic chip industry.

It is clear that there is a rift between the Biden administration and business group. However, the U.S. government seems to bask in the glory of being the "overlord of the world" and is trying to push its leading companies into a tech war with China.

Currently, the RISC-V chip technology — an open-source technology that can be used as a key ingredient for anything from a smartphone chip to advanced processors for AI — has emerged as the new battleground in the China-U.S. tech war.

The U.S. government will possibly restrict American companies from collaborating with Chinese companies on RISC-V. If it succeeds, that would be a "tremendous tragedy," Jack Kang, vice president of business development at SiFive, a California-based startup using RISC-V, told Reuters.

Just as NYT reported: "The economic interdependence of the U.S. and China, which has roots stretching back decades, means that any action by Washington to confront Beijing risks causing harm at home."

Largest Synthesis Radiotelescope Advancing Solar Research

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In order to ensure quality and meet the construction deadlines, the research team adopted a "three-step" development scheme of the telescope array. Firstly, they started by using two units (antennas) to verify the technology, and then using 16 units to conduct imaging experiments, before finally carrying out the 313-unit system construction and testing.

When the array is built with 16 units, the observation effect exceeds that of similar equipment in other countries, said Wu Lin, deputy chief designer of the DSRT. Since March 2022, the telescope array's 16-unit imaging experimental system has begun to acquire solar imaging data, and accumulated a large number of solar activity images and spectrum data.

The whole system testing showed that the telescope array had achieved continuous and stable solar radio imaging, spectrum observation capabilities with a maximum field of view of ten solar radii, and all technical indicators met or exceeded design requirements, according to the CAS.

Joint observation

In May, a joint observation experiment was carried out by the DSRT and the Low-Frequency Array in the Netherlands to achieve cross-validation. In July, the telescope array was able to offer high quality continuous and steady

monitoring of solar activities, and the radio astronomy observation capabilities such as pulsar imaging were also preliminarily verified.

According to Yan, the telescope array will also conduct joint observations with other major national scientific and technological infrastructure, including the FAST telescope (China Sky Eye) in Guizhou province, China's deep-space observation radar facility (China Compound Eye) in Chongqing municipality, and Sanya Incoherent Scatter Radar in Hainan province.

Yan added that both DSRT and FAST have their own advantages, and can play a greater joint role.

The FAST, with a 500-meter aperture, is the most sensitive radio telescope in the world. It is very good at observing pulsars and fast radio bursts, but it does not have all-sky scanning capability, said Yan.

Meanwhile the DSRT can perform like a radio camera through 313 antennas, which can continuously shoot video for radio sources such as the sun, said Yan, adding that the telescope array has a better ability to determine the coordinate position of fast radio bursts.

"We will continue to optimize and upgrade the telescope array, and hope to achieve the 100-kilometer scale," said Yan.