

# VIEWS



## China and the World Roundtable | AI Technology

**Editor's note:** AI technology has been widely used in China across sectors such as education, medical care and agriculture. And many local governments are also leveraging innovation to promote the development of AI and related industries. Three experts share their views on the issue with China Daily.

Tariq H. Malik

# Tech narratives equally vital in AI progress

The marathon has started, and there are still hurdles to cross. As DeepSeek emerged on the global scene, markets were muddled, people puzzled, costs crashed, and gurus and gambits of stock markets shifted their focus from OpenAI to DeepSeek. The launch of DeepSeek has disrupted expectations in the AI world, shattering dreams of dominance and technological supremacy of some players.

While some hail DeepSeek as a formidable competitor, others view it as a natural second-mover gaining advantage in an evolving AI landscape. The critical question is whether DeepSeek is the result of merely a second-mover's advantage or a serious path to the first-mover's narrative.

History is full of "tragedy of narratives", which include countries of origin, the collusion of editors in scholarly articles — friends scratching each other's backs to publish their articles in business and management journals.

The second mover has an advantage over the first in terms of radical innovation, often from observing, refining and optimizing what has already been done. The contrast between the first and second movers is evident in three key areas:

First, second movers can optimize resources, and reduce research and development costs by leveraging earlier innovations. Chinese companies, with their emphasis on efficiency and cost reduction, often excel in this area.

Second, second movers take advantage of the running train that has departed, leaving behind the platform it has built for others to run their new trains or board the first one, and by doing so, they reduce significant risks and costs. The first mover bears the risk of introducing a new concept and its narratives, while the second mover enters a market already primed for adoption, allowing for faster user acceptance.

And third, second movers can see the fallacies of omission and commission, and study the shortcomings of pioneer products.

This is where the tragedy of narratives comes to the fore.

The credit and credibility of OpenAI were reduced in its narratives as soon as the hungry markets trained their lenses on DeepSeek. The first mover's technological advancements do not exist in a vacuum; they thrive within the narratives that shape public perception. OpenAI did not just introduce an AI chatbot; it introduced the very concept of AI assistants to the public consciousness.

Before ChatGPT's launch, artificial intelligence was seen as a specialized tool for researchers, engineers and niche applications. ChatGPT changed that by making AI a mainstream tool,

accessible to millions of people globally. The ironic attributed values and valor to the second movers are at times unwarranted.

The first mover has a legacy, the second mover leverage.

OpenAI brought the tragedy of narratives to potential rivals who were omitted in the timing of technology diffusion. Even beyond the narrative, the success of OpenAI tools was a matter of timing: after and before events. In the former case, OpenAI released ChatGPT at the perfect moment — when AI enthusiasm was on the rise.

US narratives have a legacy, and Chinese cost efficiency has leverage. One of the starkest differences between China and the US in technology leadership is the background of decision-makers. In the US, 80 percent of leaders are trained in law or a similar subject, which enriches their narratives. In China, 80 percent of leaders are trained in engineering or related disciplines, which enriches their factual knowledge.

China has two catching-ups to do. First, it should make efforts to take the lead to be the first mover in radical technologies compared with conventional fields. In conventional technologies, Chinese companies are comfortable to be first movers in developing countries, building various kinds of infrastructure including high-speed trains, telecom networks and manufacturing plants.

Second, Chinese companies are far from becoming first movers because China is still weak in narratives. This is

where China and the US are starkly different. Americans are known for their creative and innovative narratives through which they highlight more than what they know about the future; the Chinese people are known for their creative and innovative thinking, and focusing on reducing costs.

This distinction makes a difference in how a country approaches innovation: the US excels in storytelling, persuasion and projecting technology as a movement, while China prioritizes efficiency, cost reduction and scalability. So China must integrate a narrative strategy into its technological advancements, rather than relying solely on superior engineering.

The success of AI adoption is not only about technical sophistication and cost efficiency but also about market readiness and social receptiveness with narratives but without the tragedy of narratives.

Despite all the hue and cry, China should build a narrative that will shape the mentality of society. The lesson is clear: technological breakthroughs alone do not define the future — stories have a role to play, too. The AI revolution is as much about constructing meaning as it is about advancing algorithms. If Chinese companies want to truly lead in AI, they must stop playing catch-up in narrative construction and start writing China's story before others do it for them.

*The views don't necessarily reflect those of China Daily.*

Qiu Lin

# Can machines do the work of civil servants?

The emergence of DeepSeek, a large language model developed in China, is a landmark in AI development. Much like the symbolic hammer throw in Apple's advertisement in 1984, DeepSeek represents a breakthrough moment, disrupting the technological status quo and bringing advanced AI capabilities to users across the world.

Unlike earlier AI models that required significant computational resources and involved high costs, DeepSeek is both high-performing and accessible. Its open-source model has lowered entry barriers and stimulated healthy competition in the AI industry, creating new opportunities across sectors, including in governance.

In Shenzhen, 70 AI-powered "civil servants" have reportedly been deployed in different government departments to assist with tasks such as drafting official documents, responding to public inquiries, identifying legal violations and formulating contingency plans. Work that once took civil servants days to complete can now be done in a matter of minutes.

This leap in productivity has not only increased efficiency; it has also reduced operational costs and enhanced transparency. Mistakes and oversights that often elude human detection are more readily caught by machine learning algorithms. In one striking example from the United States, a group of technicians and engineers, aged 19 to 24 and led by Tesla and SpaceX founder Elon Musk, reportedly discovered a glaring flaw in welfare records: a 300-year-old "recipient" was still receiving benefits. This absurdity had long escaped manual audits but was instantly flagged by AI. With AI's inclusion in administrative work, public services will likely be more agile and equitable.

A key aspect of AI in governance lies in personalization. Traditionally, government services have been characterized by standardized procedures and slow bureaucratic processes. But with AI models such as DeepSeek, a shift toward personalized governance is becoming possible. Imagine a world where every citizen has a personal AI assistant connected to a broader, government-operated AI system.

Rather than submitting reams of documents and waiting weeks for a response to an application for a housing loan, an individual's personal AI could securely share relevant information with a government AI system, leading to near-instantaneous decisions. This shift from "one-size-fits-all" administration to bespoke digital services would redefine the nature of public service.

As AI becomes increasingly intelligent — people like Musk claim AI will be smarter than individual humans by 2026 and more intelligent than all human intelligence combined by 2029 — does it mean we no longer need flesh-and-blood civil servants? Not quite.

While AI will undoubtedly reduce the size of the public workforce, humans will continue to play indispensable roles — as supervisors, ethical stewards and final arbiters in complex decisions. In fiscal budget management, for example, AI can monitor, analyze and optimize public spending in real time. Still, human oversight committees will be needed to ensure that algorithmic decisions remain aligned with ethical standards and do not disadvantage vulnerable populations. It is dangerously naive to assume that AI will always act in the best interests of humankind. This belief, often referred to as "anthropocentrism", may eventually prove as outdated as the geocentric model of the universe. To safeguard public interest, governments must establish ethics committees to audit AI systems, revise regulatory frameworks, and ensure transparency. Such committees will be critical to preserving trust in AI-enabled governance.

But no revolution comes without disruption. As AI assumes many traditional civil service roles, mass job displacement could trigger deep social anxiety. Questions, such as "Am I still useful if a machine can do my job?", will become increasingly common. Governments must be prepared to mitigate this social fallout by investing in mental health services, job retraining programs and welfare support.

In the short term, these interventions will be essential to maintain social stability. In the long term, however, the efficiency gained from AI may allow governments to redirect saved human and financial resources to fulfill the pressing needs in sectors such as education, healthcare and social protection. Like the impact of the internet, which democratized access to information and reduced global knowledge gaps, AI's application in public governance could redistribute social resources more equitably and unlock human potential in new ways.

In sum, AI in government is not just a matter of automation; it's about revolutionizing governance itself. If done right, an AI-powered state can more fairly and quickly fulfill citizens' needs. But to get there, we need to strike a balance between efficiency and ethics, innovation and inclusion.

*The views don't necessarily reflect those of China Daily.*

Varenyam Achal

# Green algorithms leading sustainable revolution

The increasing embrace of artificial intelligence across the world raises a pressing question: Can innovation harmoniously align with ecological sustainability? China, already a global leader in AI, has the opportunity, and responsibility, to pioneer a sustainable approach that integrates cutting-edge technology with environmental stewardship. By promoting green AI with Chinese characteristics, China can set a new global standard in sustainable technological advancement.

Traditional AI development often comes at a substantial environmental cost. Training a single advanced AI model can emit carbon dioxide comparable to the lifetime emissions of multiple cars. As AI becomes ubiquitous across industries — from automated vehicles to precision farming — the demand for more energy-efficient algorithms, sustainable hardware and eco-friendly deployment strategies becomes critical.

AI research and commercial deployment often rely on large-scale data centers, which consume huge amounts of electricity and water for cooling. Without efforts to make these facilities eco-friendly, the carbon footprint of AI could increase exponentially, undermining global efforts to achieve the climate targets. The energy-intensive nature of deep-learning training, too, poses accessibility concerns: smaller enterprises and research institutions may lack the resources to participate in such programs, stifling innovation diversity.

As AI drives smart cities, autonomous systems and on-demand digital services, unchecked computational demand risks overburdening power grids and exacerbating pollution in already vulnerable regions. Green AI prioritizes energy-aware practices, from algorithmic efficiency to sustainable infrastructure planning, ensuring that AI's growth supports rather than sabotages environmental objectives.

By optimizing model architectures to reduce computational complexity, leveraging renewable energy sources for



MA XUEJING / CHINA DAILY

data centers, and deploying lightweight algorithms on edge devices, green AI minimizes both operational costs and ecological footprints. Adopting this holistic approach — balancing performance with environmental impact — will protect planetary health while maintaining AI's transformative potential. Investing in green AI can create a more accessible, equitable and resilient AI ecosystem for generations to come.

China is uniquely positioned to spearhead this sustainable AI revolution. The country's coordinated approach, abundant data resources, robust infrastructure and robust innovation culture are distinct advantages. China's pledge to peak its carbon emissions before 2030 and achieve carbon

neutrality before 2060 provides a clear policy direction.

By aligning AI development with these ambitious climate targets, China can transform its industries. For example, setting stringent efficiency standards for AI data centers and campuses will ensure technological advancement supports national sustainability objectives. China can also leverage its global leadership in renewable energy — accounting for nearly half of global solar photovoltaic panel production and boasting the highest wind power-generation capacity — to sustainably power energy-intensive AI facilities, from the wind-driven data centers in the Inner Mongolia autonomous region to the solar-integrated tech parks in Guangdong province.

China's advancement in AI chip manufacturing — such as Huawei's Ascend series, Alibaba's Hanguang 800 and Cambricon's MLU chips — is notable for both performance and energy efficiency. These chips, measured in terms of TOPS/W (trillions of operations per second per watt), significantly reduce power consumption. Further investment in miniaturized "tiny AI" chips for everyday edge devices promises even greater sustainability gains, reducing energy use in smart homes, factories and urban environments.

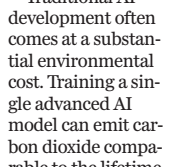
Leading research institutions, including Tsinghua University, Peking University and the Chinese Academy of Sciences, are pioneering algorithmic innovations — such as model pruning, quantization and neural architecture search — to create compact, efficient AI models. These models retain performance while dramatically reducing the energy required for training and inference. Open-sourcing these innovations can accelerate widespread adoption by industries, maximizing their environmental impact.

To lead the sustainable AI revolution, China must also champion robust ethical frameworks and transparent practices. Ensuring fairness and accountability in AI decision-making processes is critical for earning international credibility. China can spearhead initiatives to develop guidelines that address concerns over data privacy, algorithmic transparency, bias mitigation and responsible data governance.

China can strengthen trust, both domestically and globally, by adhering to ethical practices, such as algorithm audits and public disclosures of AI system performance and limitations, and promote responsible and sustainable AI use by establishing independent oversight bodies and fostering collaborative dialogues globally.

The pursuit of innovation without sustainability risks compromising our future. With its strategic foresight, vast resources and innovative capacity, China has the capacity to redefine the global trajectory of AI. By integrating ecological responsibility into every aspect of AI — from chip design and algorithm development to real-world applications — China can lead not just the AI revolution but also the sustainable AI revolution. Green AI with Chinese characteristics has the potential to create a brighter, cleaner and more responsible world for all.

*The views don't necessarily reflect those of China Daily.*



The author is a professor of Environmental Engineering and deputy dean of Undergraduate Studies at Guangdong Technological University in Shantou, Guangdong province.



The author is a professor of Innovation Studies at Liaoning University.



The author is an associate professor at the Chinese University of Hong Kong with joint appointments in the Department of Psychology, the School of Journalism and Communication, and the School of Governance and Policy Science.