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Application Practices of Artificial Intelligence in the Livelihood Economy and Daily Life

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Abstract: *As the core technology leading a new round of scientific and technological revolution and industrial transformation, artificial intelligence has deeply penetrated various fields of the livelihood economy and daily activities, becoming a core driving force for improving people's livelihood, optimizing the economic structure, and enhancing the quality of life. This paper first briefly elaborates on the policy background of the development of artificial intelligence in China. Combined with practical cases, it focuses on sorting out the specific application practices of artificial intelligence in livelihood fields and daily life, such as smart cities, smart healthcare, smart education, and smart elderly care, as well as in economic and industrial fields such as smart agriculture, smart industry, smart transportation, and smart finance. It is hoped that this paper can serve as a modest contribution and provide references for further promoting the application and development of artificial intelligence in the economy and society.*

Keywords: *artificial intelligence; livelihood economy; daily life; smart city; application practice*

1. Introduction

At present, artificial intelligence technology is accelerating its iterative evolution, profoundly changing human production and lifestyles and reshaping the global industrial landscape. In August 2025, the Chinese government issued the "Opinions on Deeply Implementing the 'Artificial Intelligence +' Initiative," requiring the deep implementation of the "Artificial Intelligence +" initiative with a focus on fields such as science and technology, industry, consumption, people's livelihood, governance, and global cooperation. In October 2025, China's 15th Five-Year Plan was released, explicitly mentioning "artificial intelligence" eight times and clearly proposing the strengthening of the integration of artificial intelligence with industrial development, cultural construction, livelihood security, and social governance. Driven by these policies, China's artificial intelligence industry has flourished. The penetration rate of AI applications among large-scale manufacturing enterprises has exceeded 30%, the scale of the artificial intelligence industry has surpassed 1.2 trillion yuan, and there are more than 6,000 AI enterprises in China. From intelligent robots in workshops to smart brains in cities, from unmanned agricultural machinery in the fields to AI teaching assistants in classrooms, artificial intelligence is moving from laboratories to various industries and households, greatly improving labor productivity and enhancing people's living experiences.

2. Policy Background of Artificial Intelligence Empowering the Development of the Livelihood Economy

China attaches great importance to the artificial intelligence industry, fully leveraging the advantages of the new nationwide system, deeply integrating AI into the national strategic layout, and gradually promoting it across various sectors of the livelihood economy. In 2017, "artificial intelligence" was included in the Government Work Report for the first time and elevated to a national strategy. In 2024, the "Artificial Intelligence +" initiative was incorporated into the Government Work Report, promoting the deep integration of AI with the real economy. In 2025, the "Opinions on Deeply Implementing the 'Artificial Intelligence +' Initiative" clarified the goal of fully entering the intelligent economy and intelligent society by 2035, providing clear policy guidance for large-scale applications.[1]

Under the guidance of central government policies, various departments, in combination with industry characteristics, successively issued a series of implementation opinions and work plans, including the "Implementation Opinions on the Special Action of 'Artificial Intelligence +

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Manufacturing,'" the "Implementation Opinions on 'Artificial Intelligence + Transportation,'" the "Implementation Opinions on Promoting and Regulating the Application and Development of 'Artificial Intelligence + Healthcare,'" the "Action Plan for 'Artificial Intelligence + Education,'" the "National Smart Agriculture Action Plan (2024–2028)," and the "Action Plan for Promoting the High-Quality Development of Digital Finance." From multiple dimensions such as technological research and development, scenario implementation, standards and regulations, and security governance, these policies have established a policy system for the integrated development of "Artificial Intelligence +," strongly promoting high-quality industry development.

Various regions in China have also introduced detailed implementation plans based on their local conditions. Shanghai issued the "Implementation Plan for Accelerating the Development of 'AI + Manufacturing' (2025–2027)," supporting the intelligent application of manufacturing enterprises through the issuance of computing power vouchers, model vouchers, and data vouchers. Guangdong Province introduced the "Several Policy Measures for Promoting the Innovative Development of the Artificial Intelligence and Robotics Industry," supporting the integrated development of artificial intelligence and robotics industries and promoting the application of AI robots in fields such as industry, agriculture, and healthcare. Zhejiang Province issued the "Action Plan for Accelerating the Innovative Development of 'Artificial Intelligence + Science' (2025–2027)," focusing on fields such as life sciences and new materials, cultivating foundational models, and supporting the innovation of technology enterprises. Chongqing released the "Action Plan for Promoting the 'Artificial Intelligence +' Initiative," promoting the deep integration of artificial intelligence with science and technology, industry, intelligence, and people's livelihood. These local policies have effectively promoted the development of regional artificial intelligence industries.[2]

3. Application Practices of Artificial Intelligence in Livelihood Fields and Daily Life

3.1 Smart Cities — Making Urban Governance More Human-Centered

Smart cities have become a popular concept in urban development in recent years, closely related to people's daily necessities such as clothing, food, housing, and transportation. The development of artificial intelligence has profoundly changed the pattern of urban governance, promoting the transformation of city management from "experience-driven" to "data-driven" and upgrading it from "passive response" to "proactive prevention." Facing the needs of grassroots governance, Changping District in Beijing has created the "Huitian Brain" system, covering 12 application scenarios including a building economy map, social worker management, and smart childcare. The system realizes dynamic updates and multi-source integration of urban elements such as people, housing, vehicles, events, and objects. In 2025, the system assisted the region in handling more than 78,000 issues before public complaints were filed, effectively improving management efficiency. Shinan District of Qingdao, Shandong Province, launched the "Convenience Service Code," closely focusing on the actual needs of residents.[3] It integrates more than 20 convenience service teams of grid workers in Jinhu Road Subdistrict and provides over 30 services, including traditional Chinese medicine acupuncture, safety hazard inspections, and daily maintenance, making grid services closer to residents' lives while effectively solving urgent public concerns and difficulties.

3.2 Smart Healthcare — Promoting Inclusive Access to High-Quality Medical Services

Solving the problems of difficult and expensive medical treatment has long been a wish of the general public. Empowered by artificial intelligence, smart healthcare can effectively optimize diagnosis and treatment processes, improve the efficiency of medical resource allocation, reduce the burden of medical treatment on the public, and enable high-quality medical services to benefit people more extensively. Various intelligent medical devices can assist in disease diagnosis and treatment more accurately, thereby improving therapeutic outcomes. Qingzhen City in Guizhou Province has taken the deployment and application of "AI doctors" as an entry point to establish a county-level medical data center and promote full coverage of artificial intelligence medical assistance systems at county, township, and village levels, realizing interconnection and interoperability among various medical institution data. In particular, village-level clinics have been fully connected to the system, greatly improving grassroots diagnosis and treatment capabilities. Since 2025, the system has served more than 290,000 patient visits, with grassroots utilization rates exceeding 30%. In 2025, Zhongnan Hospital of Wuhan University extensively applied an AI pathology system in cervical cancer screening, increasing the daily processing volume from 300 cases to 2,000 cases, reducing costs by 60%, and

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achieving a sensitivity rate as high as 97%. The "Coronary CTA AI-Assisted Diagnostic System" developed by Shukun Technology can complete automatic segmentation of coronary vessels, plaque analysis, and stenosis assessment within 30 seconds. The diagnosis and treatment time has been shortened from 15–20 minutes to 3 minutes, while diagnostic consistency has improved from 70%–80% to over 95%.

3.3 Smart Education — Promoting Inclusive and Equitable Educational Development

Education is the greatest livelihood issue. Parents' hopes for their children's success are a common expectation among Chinese families. The development of artificial intelligence is reshaping educational forms and models. Through AI remote teaching, intelligent learning guidance, learning analytics, virtual simulation, and personalized teaching, AI helps narrow regional and urban-rural educational gaps, promotes more balanced and inclusive educational resources, facilitates precise and personalized teaching, and comprehensively improves teaching effectiveness. In 2025, the Ministry of Education launched pilot programs for AI-empowered education, exploring effective paths for educational transformation in the intelligent era across 17 provinces and municipalities and 18 universities. By the end of 2025, the coverage rate of artificial intelligence applications in various schools in Beijing had reached 87.7%. Sichuan Province promoted the construction of AI dual-teacher classrooms and established an urban-rural linked teaching platform based on the "Network Chain Sharing Plan," enabling remote rural schools to synchronously access high-quality courses from prestigious schools in Chengdu, Mianyang, and other cities, effectively compensating for the shortage of rural teachers and promoting educational equity. Jiading Primary School Affiliated to Shanghai Normal University launched the "AI Teacher Dajia," which comprehensively collects data on students' classroom performance, exercise responses, and learning trajectories to accurately construct personalized knowledge maps and dynamically push suitable learning content, exercise training, and tutoring suggestions, providing a reference "AI + Education" model for basic education reform.[4]

3.4 Smart Elderly Care — Technological Power Safeguarding Happy Later Life

China has entered a stage of moderate population aging. By the end of 2025, the population aged 60 and above had reached 320 million, accounting for 23% of the total population, among which more than 90% of elderly people chose home-based elderly care. As a cutting-edge technology, artificial intelligence is becoming an important force in solving elderly care challenges. In 2025, the Ministry of Industry and Information Technology and the Ministry of Civil Affairs jointly carried out pilot projects for collaborative research and scenario applications of intelligent elderly care service robots. In March 2026, the world's first smart rehabilitation and elderly care robot service station officially began operation in the Beijing Economic-Technological Development Area. More than 40 types of robots were put into service, covering cooking, meal delivery, massage, moxibustion, companion chatting, rehabilitation training, and many other aspects. In particular, massage and moxibustion robots were highly praised by elderly users. In the field of health monitoring, AI technology has also demonstrated unique value. Many areas in Shanghai have deployed millimeter-wave AI contactless monitoring systems for elderly people living alone. Without requiring wearable devices or infringing on privacy, the systems can monitor breathing, heart rate, sleep conditions, and fall risks in real time. Once abnormal inactivity, sudden falls, or other situations occur, the system can issue second-level alerts and send notifications to family members and community grid workers, greatly shortening emergency response times and safeguarding the well-being of elderly people in later life.[5]

4. Application Practices of Artificial Intelligence in the Industrial Economy

4.1 Smart Agriculture — From "Relying on the Weather" to "Farming with Knowledge of the Weather"

Food is the foundation of the people's livelihood, and stable grain production ensures national security. China is a populous country with 1.4 billion people, and ensuring that people have enough food is the most fundamental livelihood issue. By building smart agriculture empowered by artificial intelligence and comprehensively enabling the entire agricultural production process, including cultivated land management and protection, field management, water and fertilizer control, storage, and processing, grain output can be effectively increased, agricultural product quality can be ensured, and national food security can be safeguarded. In practice, the Weishan Farm of Beidahuang in

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Heilongjiang Province has established a full-chain digital soybean platform covering the entire process of cultivation, planting, management, harvesting, storage, and sales. By integrating intelligent agricultural machinery, the Internet of Things, and AI large models, users can view field profiles and farming instructions through a mobile APP, while the system automatically plans operation routes and provides disaster warnings, achieving efficient and precise management. The Suqian Modern Agricultural Industrial Park in Suyu District, Jiangsu Province, has developed the Suqian Japonica Rice Smart Management Information Platform. By deploying sensors and network information platforms, the system continuously collects key parameters such as soil moisture, meteorological data, and pest information. Farmers can remotely monitor the health conditions of rice fields through a mobile APP, while the system automatically generates irrigation, fertilization, and pest control plans, truly realizing "farming at one's fingertips." Guangxi's "Didi Pesticide Spraying" platform uses AI to match aerial crop protection resources, allowing small farmers to enjoy professional services and helping reduce pesticide use by more than 50%.

4.2 Smart Industry — Reshaping the Core Competitiveness of Manufacturing

Manufacturing is the foundation of the nation and also the primary battlefield for artificial intelligence to empower the real economy. In 2025, China's manufacturing added value reached 34.7 trillion yuan, ranking first globally for 16 consecutive years. Artificial intelligence empowers smart industry by comprehensively penetrating the entire industrial chain, including research and development design, intelligent production, quality control, equipment operation and maintenance, supply chain coordination, and safety management. It promotes the transformation of manufacturing models from "automation" to "intelligence" and from "mass production" to "flexible customization." Zoomlion has established a shared manufacturing factory with an artificial intelligence application rate exceeding 80%. Nearly 3,000 self-perceiving robots in the factory utilize industrial internet platforms and a large number of AI algorithms to achieve self-perception, self-decision-making, and self-execution, enabling rapid switching between production scenarios to meet the needs of small-batch and multi-type production. Schneider Electric's Putuo Factory in Shanghai has deployed a third-generation fully automatic modular flexible production line. Through machine learning and operational algorithms, the system dynamically generates optimal production scheduling plans, increasing production speed by 65% and shortening order delivery time by 67%. The "Chunda Industrial Brain" project in Yanshan County, Hebei Province, customized an "offline lean management + online digitalization" solution for Chunda Pipe Fittings Company and used digital twin large models to optimize production scheduling. This model has already been promoted among small and medium-sized enterprises throughout the county. The efficiency improvements and cost reductions brought by smart industry and intelligent factories will ultimately be transmitted to consumer goods prices, enabling people to enjoy higher-quality products at lower costs.[6]

4.3 Smart Transportation — Making Travel Smoother and Safer

Transportation is closely related to economic development and public travel and is one of the livelihood fields most directly perceived and most strongly concerned about by residents. By building a smart transportation system empowered by artificial intelligence, public travel experiences have been further optimized, while urban traffic governance models have also been upgraded. Relying on the "City Brain" traffic data platform, Guiyang traffic police implemented dynamic signal optimization on multiple main roads in the old urban area. After the unified optimization of traffic signal timing on Xingye Street, travel time from Longshui Road to the Exhibition Center was reduced by 50%, enabling uninterrupted travel without stopping at traffic lights. Binyang Avenue established a 3.2-kilometer two-way green wave corridor, reducing travel time from 8 minutes to less than 4 minutes and improving efficiency by more than 53%. By deploying sensing devices such as millimeter-wave radar and lidar, the Shanghai–Nanjing Expressway in Jiangsu Province established a smart highway supervision platform to realize real-time traffic monitoring, situation prediction, and coordinated control, greatly improving traffic efficiency. In particular, the realization of intelligent capacity expansion through AI systems significantly increased road traffic flow and reduced accident rates. Hangzhou Public Transport equipped buses with an AI intelligent dispatching system that collects passenger flow data in real time through onboard terminals and station cameras. During morning peak hours, for popular routes, the system dynamically adjusts departure frequency according to passenger boarding and alighting numbers at stations, greatly shortening departure intervals and effectively reducing passenger waiting times.

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4.4 Smart Finance — Promoting the Intelligent Transformation of Inclusive Finance

Finance is the reservoir supporting the development of the real economy. By building smart finance through artificial intelligence, business operating conditions and financing needs can be accurately identified, greatly improving credit approval efficiency and risk control capabilities, and effectively solving the problems of difficult and expensive financing for small and micro enterprises. Relying on intelligent risk control, anti-fraud monitoring, and personalized wealth management, smart finance can better safeguard the financial security of the public. Industrial and Commercial Bank of China has implemented more than 500 AI applications across over 30 business areas. AI digital employees undertake workloads equivalent to 55,000 person-years annually, significantly reducing labor costs. China Merchants Bank's large model has an average daily token call volume of 26 billion, and 82% of the workload of due diligence reports for small and micro enterprises has already been replaced by large-model automation. In terms of customer service, the intelligent wealth advisory digital human "Xiaoxin" has cumulatively served more than 7.91 million customers. Digital assistants such as digital tellers, compliance AI assistants, and AI auditing assistants are also accelerating the reshaping of new banking service models.

5. Conclusion

Artificial intelligence is integrating into every aspect of the livelihood economy and daily life with unprecedented depth, continuously giving rise to new industries and new models, injecting strong momentum into social development, and providing greater convenience for people's lives. While fully affirming these achievements, it is also necessary to recognize that the development of the industry still faces issues such as data security and privacy protection, inclusiveness and social equity, ethics and responsibility. Only by upholding fairness while pursuing efficiency, maintaining humanistic care while embracing technology, and strengthening governance while promoting innovation can artificial intelligence truly serve the people and benefit society, thereby realizing the coordinated and sustainable development of technological progress, people's well-being, and economic growth.

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