Cuban Journal of Public and Business Administration
ISSN 2664-0856 RNPS 2458 / Vol. 9 (2025) / e365
Available in: https://apye.esceg.cu/index.php/apye/article/view/365

Original article

ONE CORE WITH MULTIPLE COMPETENCES, CATALYZING INTELLIGENCE FUSION-TOWARD A WORLD-CLASS AI SCHOOL WITH BIT DISTINCTION

UN NÚCLEO CON MÚLTIPLES COMPETENCIAS, CATALIZANDO LA FUSIÓN DE INTELIGENCIA: HACIA UNA ESCUELA DE IA DE CLASE MUNDIAL CON DISTINCIÓN DE BIT

Fang Deng [I *] https://orcid.org/0000-0002-1111-7285
Ye Yuan [I] https://orcid.org/0000-0002-0247-9866
Chen Chen [I] https://orcid.org/0000-0001-9354-6974
Bin Xin [II] https://orcid.org/0000-0001-9989-0418
Bo Wang [III] https://orcid.org/0000-0001-9092-3252

[I] School of AI, Beijing Institute of Technology, Beijing, China
dengfang@bit.edu.cn, yuan-ye@bit.edu.cn, xiaofan@bit.edu.cn,
[II] National Key Lab of Autonomous Intelligent Unmanned Systems, Beijing Institute of Technology, Beijing, China
brucebin@bit.edu.cn
[III] Beijing Institute of Technology, Beijing, China
bowang@bit.edu.cn

* Corresponding author: dengfang@bit.edu.cn

JEL Classification: I23

DOI: https://doi.org/10.5281/zenodo.16914702

Received: 02/07/2025
Accepted: 13/08/2025

Abstract

Artificial intelligence (AI) stands as the central focus of global technological competition, with the cultivation of AI talent constituting its pivotal underpinning. Against the dual backdrop of intensifying

Published by the Higher School of State and Government Cadres, Havana, Cuba

Escuela Superior de Cuadros del Estado y del Gobierno

global AI rivalry and a severe domestic shortage of AI professionals, this study examines the establishment of the School of AI at Beijing Institute of Technology (BIT) as its research subject and explores innovative pathways for the intelligent transformation of China's higher education in the AI era. BIT has holistically integrated its internal and external AI resources and platforms to establish its AI School at a high starting point and under stringent benchmarks. With a target of becoming a world-class, BIT-distinctive AI School by 2030, the School is dedicated to fostering a new ecosystem for cultivating homegrown exceptional interdisciplinary AI talent, revolutionizing educational paradigms with AI technology as the core driver, concentrating efforts to build national-security-focused AI strengths, and constructing a smart operational support system underpinning the green and high-quality development of BIT. Functioning as an integrated "one core with multiple competences" AI innovation complex, encompassing talent development, educational reform, scientific research, and management services, the School of AI catalyzes BIT's "intelligence fusion" in the AI era. This study thereby provides an exemplary model for the intelligent transformation of higher education.

Keywords: artificial tntelligence; digital transformation of education; cultivating homegrown talents; reform of educational pedagogy; artificial research; smart service support system

Resumen

La inteligencia artificial (IA) se erige como el eje central de la competencia tecnológica global, siendo la formación de talento en IA su pilar fundamental. En el doble contexto de la intensificación de la rivalidad global en IA y la grave escasez nacional de profesionales en IA, este estudio examina la creación de la Escuela de IA del Instituto Tecnológico de Pekín (BIT) como objeto de investigación y explora vías innovadoras para la transformación inteligente de la educación superior china en la era de la IA. El BIT ha integrado integralmente sus recursos y plataformas de IA, tanto internos como externos, para establecer su Escuela de IA desde una base sólida y bajo estrictos estándares de calidad. Con el objetivo de convertirse en una Escuela de IA de clase mundial y distintiva del BIT para 2030, la Escuela se dedica a fomentar un nuevo ecosistema para la formación de talento interdisciplinario excepcional en IA, revolucionando los paradigmas educativos con la tecnología de IA como motor principal, concentrando esfuerzos en el desarrollo de capacidades de IA centradas en la seguridad nacional y construyendo un sistema de apoyo operativo inteligente que sustente el desarrollo sostenible y de alta calidad del BIT. Al funcionar como un complejo integrado de innovación en IA con un núcleo único y competencias multifacéticas, que abarca el desarrollo de talento, la reforma educativa, la investigación científica y los servicios de gestión, la Escuela de IA cataliza la fusión de inteligencia del BIT en la era de la IA. Este estudio proporciona, por lo tanto, un modelo ejemplar para la transformación inteligente de la educación superior.

Palabras clave: inteligencia artificial; transformación digital de la educación; desarrollo de talentos locales; reforma de la pedagogía educativa; investigación artificial; sistema de soporte de servicios inteligentes.

Introduction

Artificial intelligence (AI) has become a central focus in the global technology race, a key driver of industrial upgrading, a core enabler of the scientific and technological revolution, a pivotal force for

military innovation, and a powerful engine for educational reform. Since the 18th National Congress of the Communist Party of China (CPC), the Central Committee under the leadership of Xi Jinping has consistently prioritized AI development as a national strategic goal. President Xi has emphasized that "AI is a strategic technology that drives the scientific and technological revolution and industrial upgrading, and serves as a strong pacesetter with significant spillover effects." In April this year, the Political Bureau of the CPC Central Committee held its twentieth collective study session on strengthening AI development and governance. During this session, President Xi outlined strategies to advance AI in China and introduced key policy measures, further underscoring its strategic importance and the urgent need to accelerate progress in this field.

As the first university of science and technology founded by the CPC, BIT has always prioritized serving national strategic goals and has paid close attention to AI development, laying a solid foundation through early planning and continuous efforts. As early as the 1960s, BIT established the Department of Automatic Control, followed by the Department of Computer Science and Engineering in the 1980s, making it one of the earliest universities in China to engage in AI-related education, research, and talent development. In recent years, BIT has been approved to set up twelve major scientific and educational platforms, including the National Key Lab of Autonomous Intelligent Unmanned Systems, one of the first national innovation platforms for AI industry-education integration, and one of the first interdisciplinary centers for Intelligent Systems.

BIT has also developed a comprehensive AI talent pipeline that covers undergraduate, postgraduate, doctoral, and postdoctoral stages. In April 2025, to further advance the disruptive impact of AI across all areas of higher education, BIT established the School of AI (SAI) to consolidate internal and external AI resources and platforms. The new school aims to build an integrated "one core with multiple competences" AI innovation complex, driving coordinated progress in talent development, teaching, research, discipline building, and management services. It also seeks to foster an independent, interdisciplinary "X^{AI}" innovation ecosystem, providing strong support for the university's goal of achieving "Intelligence Fusion" in the era of AI-driven transformation. This paper examines the establishment of the SAI as its research subject and explores innovative pathways for the intelligent transformation of China's higher education in the AI era.

Background and Demand for AI Talent Development

(i) Global Trends in AI Development

AI is a strategic technology that drives the new wave of scientific and technological revolution and industrial transformation. It has become a critical variable for assessing a country's capacity for innovation, economic vitality, and overall national strength, and has attracted significant attention and investment from major countries worldwide. The United States has successively enacted the National AI Initiative Act of 2020, updated its National AI R&D Strategic Plan, and released the Decoupling America's Artificial Intelligence Capabilities from China Act of 2025. President Trump introduced the "Stargate Plan", which aimed to invest up to USD 500 billion over four years to build AI infrastructure and secure America's leadership.

The European Union has also established the AI Office and introduced the Artificial Intelligence Act to safeguard ethical standards and promote the peaceful development of AI. In China, a series of guiding documents have been issued, including the New Generation Artificial Intelligence Development Plan and the Guidelines on Accelerating Scenario Innovation to Promote High-Level AI Applications and Support High-Quality Economic Development. The focus of technological competition has shifted to AI: whoever leads in AI development will hold a dominant position in the next round of international technological competition and global industrial development. With AI emerging as the core of global technological competition, the ability to lead in AI development will be key to shaping the future landscape of international technology and industry.

The advancement of AI relies not only on breakthroughs in core technologies but also on the development of a comprehensive ecosystem spanning the entire chain of education, research, and talent development. Over the past seven decades, researchers have achieved numerous milestones in AI: in 1957, Frank Rosenblatt invented the perceptron; in 2012, Geoffrey Hinton's deep neural network, AlexNet, won the ImageNet image recognition competition; in 2016, AlphaGo defeated the world's top human Go player; and in 2022, ChatGPT was launched.[1] However, achieving large-scale adoption and sustainable innovation requires a robust ecosystem supported by multiple components, including computing power, chipsets, algorithm frameworks, hardware, application scenarios, and skilled talent.[2]

Today, China's AI industry holds notable competitive advantages but still faces gaps in foundational models, software platforms, and high-end chips.[3] Domestic large language models lag behind counterparts such as ChatGPT and Grok in the United States, while American companies continue to dominate the global market for core AI software, and over 90% of China's high-end GPU chips still depend on imports. Ultimately, these technological gaps can be traced back to a shortage and outflow of top-tier AI talent—at its core, the AI race is fundamentally a competition for talent.

(ii) The Urgency of Building a Homegrown AI Talent Pool

Lacking AI literacy will soon be as limiting as lacking basic computer skills today. A range of surveys and reports indicates that AI is disrupting existing jobs and transforming work patterns. According to the 2024 Global Talent Trends report, 80% of jobs are expected to change due to AI between 2025 and 2027.[4] The World Economic Forum projects that by 2030, 86% of companies worldwide will undergo AI-driven transformation. McKinsey further predicts that between 2030 and 2060, AI could replace up to 50% of current occupations [5]. However, despite this wave of intelligent transformation, China faces a severe shortage of AI talent, and its domestic capacity for cultivating high-level professionals domestically requires urgent reinforcement. McKinsey's latest report estimates that by 2030, China will require about six million AI professionals, yet the talent gap could reach four million, revealing significant structural mismatches. Globally, 47% of top AI experts hold an undergraduate degree from a Chinese university, but only 28% currently work in China. In contrast, only 18% have a U.S. undergraduate background, but 42% are currently based in the United States.[6] To some extent, this talent gap constrains China's capacity for innovation and limits its efforts to enhance core AI competitiveness.

At the same time, as global geopolitical tensions continue to rise, technical barriers and trade protectionism are escalating, which are imposing unprecedented external constraints on AI research collaboration and academic exchange. In December 2024, the U.S. Department of Commerce's Bureau

of Industry and Security announced a package of new regulations aimed at further undermining China's capacity to produce advanced semiconductors. In February 2025, the Department imposed additional restrictions on China's AI and advanced computing capabilities, adding 80 entities to the Entity List and strictly limiting their access to high-performance AI chips in both quantity and type. Meanwhile, the U.S. government continues to introduce policies and measures to restrict Chinese students' study and research opportunities in STEM fields, including stricter visa screening and further restrictions on participation in research projects. As a direct consequence of these policies, in January 2025, the University of Michigan announced the termination of its long-standing partnership with Shanghai Jiao Tong University, ending two decades of academic cooperation-an outcome that starkly reflects the deteriorating landscape of international scientific exchange.

To mitigate talent outflow, address structural gaps, and counter the impact of technological blockades, China must urgently strengthen its capacity to cultivate high-caliber AI talent domestically. This is critical to ensuring sustained progress in cutting-edge technological innovation and industrial applications in the era of AI-driven transformation.

Status and Reflections on AI Talent Development

(i) Current Status of AI Talent Development

Major countries and leading universities worldwide are accelerating the development of AI talent development systems. The United States remains at the forefront in both timing and scale, having established a diverse range of AI talent development models that have driven the country's rapid progress in the AI field. For example, the University of California, Berkeley, established the Berkeley Artificial Intelligence Research Lab in 2016, which focuses on core AI challenges through independent innovation and interdisciplinary collaboration. In 2018, the Massachusetts Institute of Technology (MIT) launched the Schwarzman College of Computing with a USD 1 billion investment to empower other disciplines-including the humanities—to reimagine the future of computational intelligence, thereby driving the digital transformation of multiple academic fields. In 2019, Stanford University established the Institute for Human-Centered AI (HAI), emphasizing the integration of AI research, education, policy, and practice to ensure technological advancements align with human well-being. In Europe, institutions such as the ETH AI Center at ETH Zurich (established in 2020) and the Human-Centered AI Lab at the University of Oxford (established in 2024) are committed to fostering high-level expertise in AI safety and ethics, promoting the long-term and stable development. At present, there is no unified global standard for AI talent development. Universities worldwide continue to explore and refine their own approaches, each developing distinctive strengths and features. Overall, AI talent development is evolving toward greater diversity, systematization, and higher quality.

The Chinese government fully recognizes the strategic imperative of domestic AI talent development and has introduced a series of policies and initiatives to ensure that AI development comprehensively supports the building of a strong nation in education, science and technology, and human resources.
In September 2024, President Xi emphasized at the National Education Conference the need to "thoroughly implement the national education digitalization strategy" and to "leverage AI to drive educational transformation." In January 2025, the CPC Central Committee and the State Council issued the Blueprint for Building a Leading Education Nation (2024–2035), which explicitly calls for promoting

the integration of AI into education, developing and refining digital literacy standards for teachers and students, and advancing AI-enabled teacher workforce development. In April 2025, the Ministry of Education and eight other departments jointly released the Guidelines on Accelerating Education Digitalization, outlining the implementation of the national education digitalization strategy and promoting the deep application of AI to lead high-quality educational development. This series of intensive and robust policy measures clearly demonstrates China's commitment to positioning the cultivation of AI talent at the core of its national strategy. By empowering transformative changes across the education system through deep integration of AI, China is striving to build a high-quality talent pipeline that meets the demands of the intelligent era, fundamentally strengthening the country's capacity for independent innovation and sustainable development in the AI domain.

In response to these developments, Chinese universities have been accelerating the construction of AI-related disciplines and talent development programs. In recent years, the number of institutions offering undergraduate programs in AI has increased substantially. Since AI was officially added to the list of recognized undergraduate majors in 2019, the number of universities approved to offer such programs has grown from an initial 35 to more than 500 by 2023. Among China's top universities, 12 have established dedicated schools or colleges, including seven that opened new AI schools in 2024 alone—such as Tsinghua University, Shanghai Jiao Tong University, and the University of Science and Technology of China.

Different institutions have pursued diverse development paths and areas of focus. Tsinghua University leverages its strengths in science and engineering to drive breakthroughs in AI architecture and computing models, with applications in fields such as electronics, biology, and pharmaceuticals. Peking University builds on its strong foundations in the natural sciences to advance fundamental research in mathematics and related disciplines, and has launched two flagship AI programs — the "PKU General AI Class" and the "PKU Smart AI Class" — to promote original and leading-edge research in general AI. Renmin University of China draws on its unique strengths in the humanities and social sciences to promote interdisciplinary integration with AI, placing particular emphasis on the ethical and professional development of AI professionals. Through differentiated strategies and distinctive development models, Chinese universities are laying a solid foundation for a robust pipeline of high-level AI talent to meet national strategic needs.

(ii) Reflections on AI Talent Development

As AI continues to fundamentally reshape scientific and technological systems as well as societal structures, developing a future-oriented talent development system has become a core priority in educational reform. Unlike traditional disciplines, AI advances at an exponential pace, e.g., generational upgrades of large models occur in just six months. In addition, AI is highly pervasive and deeply integrative: it depends on the interdisciplinary fusion of multiple fields such as automatic control, computer science, and mathematics, and holds disruptive potential in industries such as manufacturing, healthcare, and finance. These characteristics render the traditional discipline-based and "knowledge-transmission" talent development model inadequate for meeting the demands of AI talent development. A comprehensive overhaul of key elements—knowledge systems, skill sets, and innovation mechanisms—is urgently needed. Such changes will drive a systematic shift from knowledge-based

development to the cultivation of versatile, hands-on, and innovation-driven professionals, ultimately building an educational ecosystem and paradigm capable of sustaining high-quality AI development.

With the rapid advancement of AI, cultivating talent requires restructuring disciplinary frameworks and dismantling traditional academic silos. Faced with the multifaceted challenges brought about by the rapid evolution of AI, including technical, ethical, and societal issues, conventional discipline-centered talent development models are no longer sufficient to meet current needs. Going forward, a new integrated field—blending natural intelligence, artificial intelligence, and collective intelligence—is expected to emerge within a unified disciplinary framework. Accordingly, university academic systems must become more interdisciplinary and cohesive. It is essential to promote deep integration between AI and other disciplines such as mathematics, physics, neuroscience, psychology, linguistics, law, and even philosophy.

Furthermore, forming supervisory teams with diverse academic backgrounds, designing modular and flexible curricula, and allowing students to combine course modules according to their interests will help nurture adaptable and innovative professionals. For instance, the Schwarzman College of Computing has appointed 25 "bridge" faculty members in collaboration with five other schools, connecting different departments and disciplines to advance truly interdisciplinary education and research. This approach represents a shift from simple knowledge integration to genuine cognitive convergence, establishing a new model for interdisciplinary talent development.[7]

Developing AI talent requires moving beyond textbooks and emphasizing real-world application. According to the China AI Development Report by Tsinghua University, although the number of doctoral supervisors has increased by 40% over the past five years, only about one-quarter have industry experience, and 70% of enterprises report that graduates lack sufficient practical skills. Given the significant gap between "AI in the lab" and "AI on the factory floor," universities are updating undergraduate and graduate curricula, streamlining outdated content, and enriching courses with more hands-on components. They are also strengthening the integration of education, research, and industry, with a greater focus on cutting-edge, practice-oriented training. To close this gap, institutions are building industry-academia collaboration platforms that incorporate advanced corporate equipment, proprietary technologies, and industry experts into the teaching process.

Joint laboratories dedicated to both foundational and practical research are being established, and specialized graduate-level projects are being launched to help students tackle real problems aligned with industry needs. By adopting a project-based training model, students develop engineering skills and innovative thinking through solving practical challenges. These efforts aim to shift AI talent development from being purely knowledge-driven to practice-driven, accelerating the cultivation of high-level, interdisciplinary professionals equipped to handle complex engineering scenarios.[8]

AI-driven talent development requires rethinking educational models and redefining the role of universities. ChatGPT, for example, has acquired nearly all publicly available online knowledge through its training, while DeepSeek has become the first point of reference for many Chinese students when they encounter academic challenges. AI technologies are reshaping how knowledge is produced and shared, challenging the traditional image of teachers as mere "knowledge transmitters." Today's educators must shift to being learning facilitators, interdisciplinary coordinators, and collaborators in

human-AI co-learning, while universities must serve as platforms that provide students with tools and environments for effective human-machine collaboration.[9] Teachers are now expected to have a solid grasp of fundamental AI concepts and digital teaching tools, and to adopt a new instructional model in which "one human tutor plus multiple AI tutors" collaboratively support a cohort of students. This approach supports personalized learning path recommendations and continuous formative assessment. Universities should also fully leverage various intelligent devices to integrate online and offline learning, centralized and distributed study modes, as well as classroom-based and venue-based learning experiences.

A comprehensive smart education assurance system covering all faculty, students, and staff should be developed to sustain this transformation.[10] In addition, universities should build robust large-model and high-performance computing infrastructure, and establish three core resource libraries: a database, an algorithm library, and a tool library. These resources should serve five main user groups: faculty, students, administrative staff, managers, and external partners. Collectively, these efforts will drive comprehensive improvements in four key areas—education, science and technology, talent development, and institutional governance—ensuring that intelligent technologies underpin high-quality and sustainable university development.

World-Class AI School with BIT Distinction

(i) Foundational Strengths of AI at BIT

BIT has a long-standing tradition of developing robust AI-related disciplines and has established a comprehensive talent development system spanning the entire educational pathway from undergraduate to postdoctoral training. For 85 years, BIT has remained committed to national strategic needs and defense development. Its guiding philosophy of "Yan'an Root, Military Industry Spirit, and Leadership Talent" has defined its unique approach: integrating moral development with technical training, advancing technological self-reliance in support of national defense, and fostering innovation through openness and the pursuit of excellence. BIT's progress in the AI domain exemplifies these core values in practice.

As one of the earliest universities in China to engage in AI-related teaching, research, and talent development, BIT has laid a solid groundwork for sustained progress in this field. In 1960, the establishment of the Department of Automatic Control initiated the university's early exploration of intelligent control technologies. In 1980, the founding of the Department of Computer Science and Engineering further solidified the academic foundation for AI advancement. Notable milestones followed, including significant achievements during the Eighth Five-Year Plan period, when BIT successfully developed China's first prototype autonomous unmanned vehicle, the ATB-1. This innovation provided a solid basis for research on intelligent unmanned systems and highlighted the university's proactive approach to AI application development.

In recent years, BIT has expanded its strategic layout and sustained efforts in the field of AI, leading to the establishment of several innovative research platforms and the continuous generation of significant research outcomes (See **Figure 1**). In 2013, the State Key Lab of Intelligent Control and Decision for Complex Systems was approved, focusing on theories and methods of intelligent control for complex

systems. It aims to provide technical solutions for major challenges in national defense and economic development. In 2015, the Advanced Innovation Center for Intelligent Robots and Systems was established as the only such center in Beijing dedicated to AI and robotics, convening top-tier research teams and accelerating the translation of scientific results into practical application.

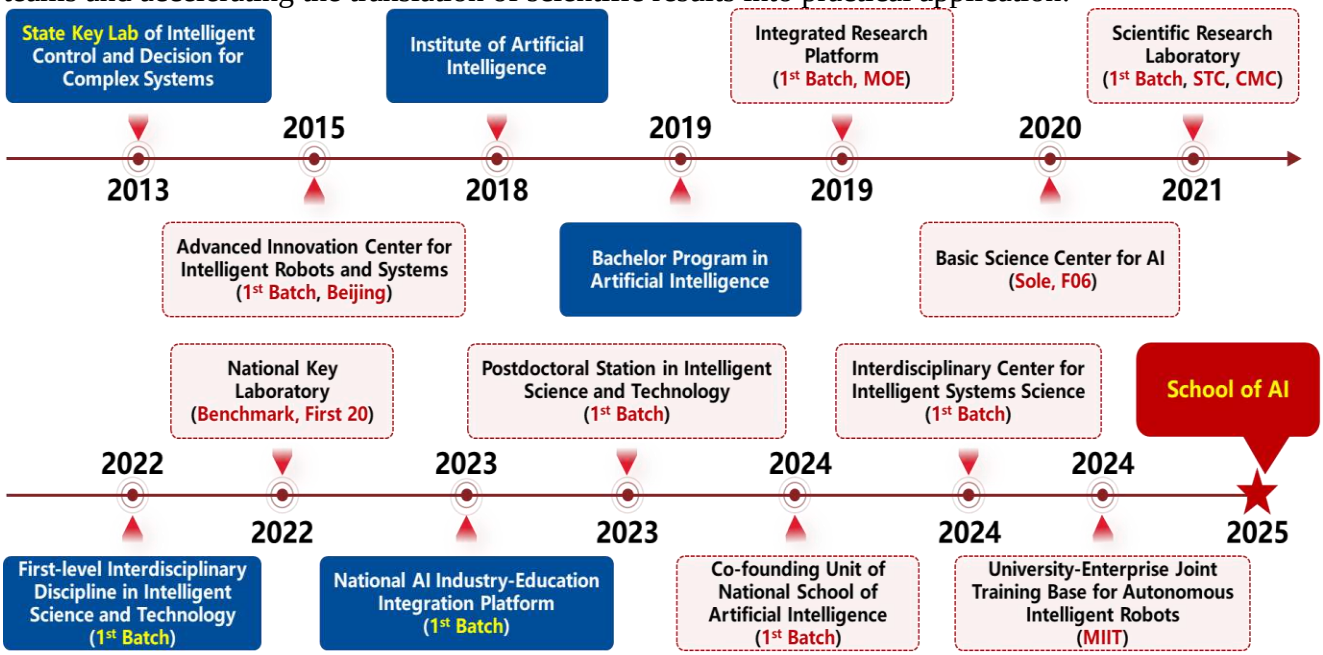

Figure 1. AI-related key events at BIT in recent years
Source: own elaboration

In 2017, the discipline of Control Science and Engineering was selected as part of China's "Double First-Class" initiative, marking national recognition of BIT's strength in AI-related disciplines. In 2018, the Institute of Artificial Intelligence was founded to integrate internal and external resources and promote interdisciplinary research and collaborative innovation in AI. In 2019, responding to emerging societal and industrial needs, BIT launched its undergraduate program in AI, opening a new chapter in the training of specialized AI professionals.

In 2020, the Center for Fundamental Science on Autonomous Intelligent Unmanned Systems, funded by the National Natural Science Foundation of China, was approved, providing robust support for basic theoretical research on AI. In 2021, the Military Scientific Research Laboratory related to unmanned systems sponsored by the Science and Technology Committee (STC) of Central Military Commission (CMC), was approved, further enhancing the university's research capacity in military AI. In 2022, BIT was authorized to confer doctoral degrees in the first-level interdisciplinary discipline of AI and was approved to host two additional national key laboratories: the National Key Lab of Autonomous Intelligent Unmanned Systems and the National Key Lab of Space-based Information Processing. These achievements marked the formation of a new research ecosystem featuring military-civilian integration and collaborative development.

In 2023, the discipline of AI was officially renamed Intelligence Science and Technology, becoming a first-level academic field. In the same year, BIT was approved as one of the first universities to host a National AI Industry-Education Integration Innovation Platform and established one of the earliest

postdoctoral research stations in this newly defined discipline. These initiatives completed a full talent training pipeline from undergraduate to postdoctoral levels and deepened integration across industry, academia, research, and application.

Building on its long-term commitment and sustained progress in the AI field, and considering the transformative impact that AI is expected to have across multiple sectors, the CPC BIT Committee approved the formal establishment of the SAI in April 2025. The School is responsible for advancing the discipline of Intelligence Science and Technology and developing related academic programs. Its mission includes cultivating highly qualified AI professionals and promoting cutting-edge research, thereby providing key support for BIT's ongoing digital transformation. To ensure that the School's development aligns with the university's overall ideological and political framework, the Party Branch of the SAI, under the CPC BIT Committee, was established at the same time to reinforce Party building and ideological guidance within the School.

On May 17, BIT organized the "AI Transformation and Science-Education Innovation Forum and Inauguration Ceremony of the School of AI." During this event, the School was officially inaugurated, and the university released the BIT Smart Education Action Plan. This plan seeks to apply AI technologies to foster educational reform, develop a more intelligent learning environment, and innovate training models for talent development. It aims to promote high-quality teaching and learning throughout the university and demonstrates BIT's commitment to contributing to higher education reform and innovation in the AI era.

(ii) Key Initiatives for the Development of the SAI

The SAI aims to establish itself as a world-class center for AI research and education by 2030. To this end, the School integrates leading AI resources and platforms both within the university and through external collaborations, and brings together top national experts in the field. It seeks to develop an "AI Innovation Complex" with a strong core and multiple complementary functions, and to foster a self-sustaining innovation ecosystem characterized by cross-disciplinary integration under the framework of "X^{AI}."

1. Talent Development.

For talent development, the SAI cultivates outstanding interdisciplinary professionals through an AI-enabled self-sustaining ecosystem. The School employs AI across the entire training process and has developed a new education model that integrates five key dimensions: teachers, students, AI technologies, learning environments, and institutional culture. It has also defined a matrix that aligns targeted competency goals with each stage of undergraduate and graduate training, and fully leverages AI to transform the traditional approach that focuses primarily on knowledge transmission. This approach aims to nurture AI innovators equipped with eleven core competencies. These include cognitive and innovative abilities such as logical reasoning, problem analysis, and creative thinking; foundational skills in knowledge acquisition and the use of tools; collaborative and interdisciplinary execution skills including planning, implementation, self-motivation, communication, and leadership; and decision-making skills necessary for comprehensive evaluation and informed judgment. The **Figure 2** shows

relation matrix between talent competencies and undergraduate and graduate training processes in the AI era.

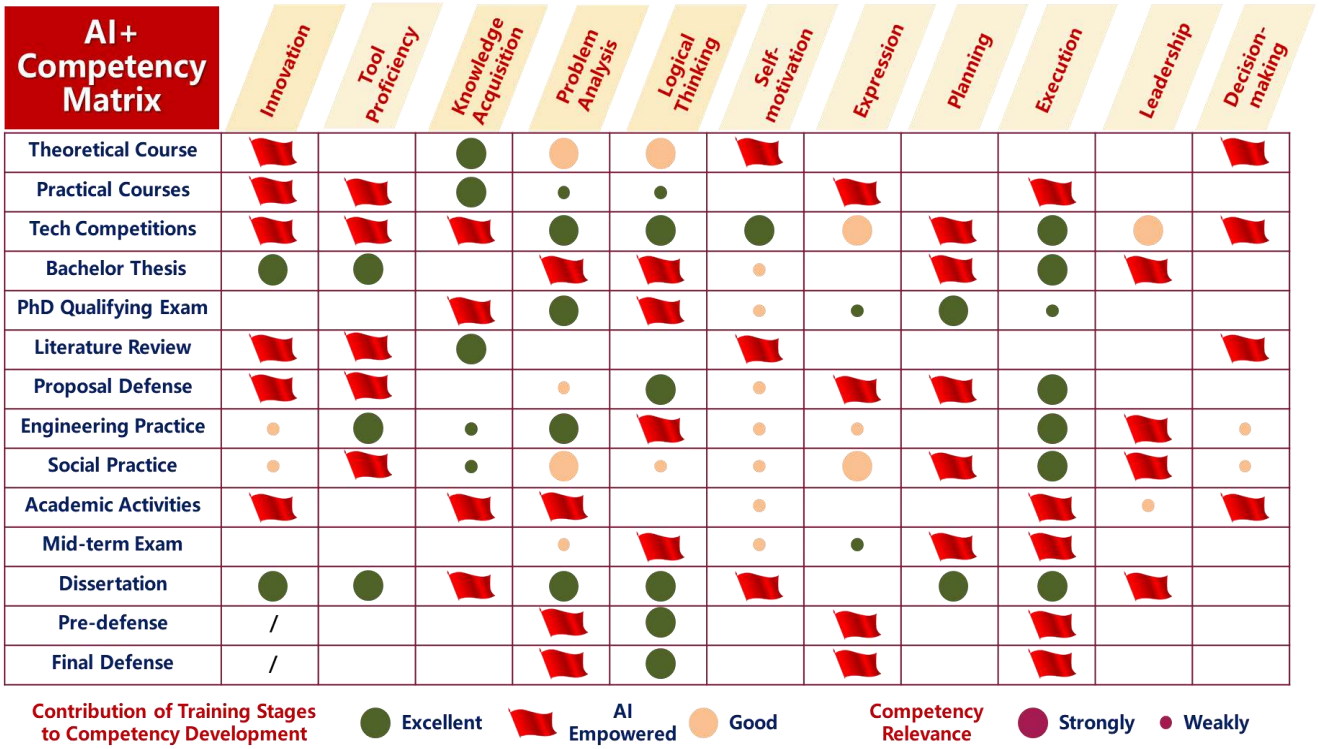

Figure 2. Relation matrix between talent competencies and undergraduate and graduate training processes in the AI era
Source: own elaboration

As a designated demonstration zone for AI-driven talent development, the SAI is transforming the traditional binary "teacher–student" model of knowledge transmission into an interactive model that integrates teachers, students, AI technologies, learning environments, and institutional culture. In this new framework, students shift from being passive recipients to active innovators. By interacting with AI, they learn to master AI tools, learn from AI, and conduct research with AI support. At the same time, AI technologies provide enhanced feedback and capability profiling, enabling more targeted and efficient learning. Teachers, in turn, shift from knowledge transmitters to facilitators of learning. By engaging with AI, they can update disciplinary content with the latest research findings and dedicate more time to personalized guidance and discussion-based instruction, thus focusing on the comprehensive development of students' abilities. To support this transformation, a ubiquitous AI-enabled learning environment is being developed, expanding the physical campus into a pervasive smart ecosystem. This environment facilitates the use of AI by all members of the university community, promoting the goal that everyone understands and effectively uses AI, and supporting students' holistic development.

In addition, an open cultural center is being established to integrate AI into the moral and ideological education ecosystem through the digitalization of revolutionary education resources, the interactive design of teaching methods, and the modularization of ideological micro-courses. This shifts campus

culture from traditional static transmission to an intelligent, dynamic, and immersive experience that shapes students' moral character from within.

The SAI has streamlined core elements of AI competency training and established a seamless pathway connecting undergraduate and graduate education, addressing the gap between rapid AI advancements and the comparatively slower pace of talent development. Within the School of Future Technologies, a "Superior Class" will be introduced to enable exceptional students to pursue an integrated bachelor-to-doctorate program, allowing completion of a doctoral degree in as few as seven years. The SAI will lead the development of high-caliber AI talents within this track. In addition, an "Intelligent Class" will be launched at XUTELI School to build a high-quality tiered system that supports continuous development from undergraduate through postgraduate study.

A rigorous multi-dimensional selection and progression mechanism has been designed to support this pathway. Students with outstanding abilities may transition directly to master's and doctoral studies during their third undergraduate year, gaining early access to research groups, laboratories, and frontier research topics. A unified knowledge framework has been developed to align undergraduate and graduate curricula, along with tiered clusters of core courses that allow flexible enrollment across levels. To support personalized learning, credit requirements now account for total credits earned across stages, and credits lost due to exploratory learning on challenging courses are not factored into academic evaluations. Project-based and inquiry-oriented teaching methods are actively implemented, bringing together the university's top academics and instructional teams in collaboration with leading industry partners and practice-oriented platforms. A series of high-quality practical projects is under development, supported by an AI-powered teaching system that offers digital resources aligned with each project. This approach ensures that students have timely access to information and the tools needed to complete project tasks effectively.

The SAI is committed to building a high-quality National AI Industry–Education Integration Innovation Platform to advance practice-oriented AI training models and address the common disconnect between talent development and industry needs. To this end, the School collaborates with ten leading domestic AI enterprises—including Huawei, Baidu, Zhongbing Intelligent Innovation Research Institute, CETC Intelligent Technology Research Institute, Yunji Technology, Geek+, Tinavi, Cambricon, Maxwell, and iFLYTEK—integrating high-quality university and industry resources to comprehensively improve the industry–education cooperation model. This initiative aims to align the education, talent, industry, and innovation chains, thereby establishing a new mechanism for cultivating AI leadership talent. Practical training on domestic technology platforms and lectures by industry experts enable undergraduates to gain hands-on experience and develop applied skills.

At the master's level, a co-supervision system involving both university and industry mentors, along with in-depth internships and industry exchanges, fosters creativity and innovation. At the doctoral stage, collaborative research and frontier exploration facilitate the development of leadership capabilities in advanced AI research and applications. Through deep collaboration between university and industry platforms, this model supports cross-disciplinary talent introduction and development, joint curriculum design, co-training of students, co-development of projects, shared application and commercialization of research outcomes, and the cultivation of an integrated ecosystem for industry–education synergy. This

comprehensive approach aims to produce high-level, interdisciplinary professionals who can meet the demands of China's AI sector, particularly in areas requiring civil–military integration.

The SAI is piloting the establishment of an AI Science and Education Center to integrate high-quality teaching and research resources and to address the challenge of keeping AI talent development aligned with rapidly evolving technological frontiers. Supported by prominent research platforms, teams led by academicians, and national-level research projects, the Center is equipped with state-of-the-art laboratory facilities, a dedicated technical support team, and ample funding for academic exchanges. This structure creates an integrated organization combining research, curriculum development, teaching, and talent development, transforming world-class research resources into top-tier educational assets.

By leveraging these resources, the Center aims to cultivate high-caliber undergraduate and graduate students who, in turn, contribute to cutting-edge research outputs, thus fostering a virtuous cycle that tightly links education, scientific research, and talent development. Students gain timely access to the latest scientific knowledge, participate directly in frontier research projects, and develop advanced skills through hands-on involvement. This approach accelerates their growth into innovative leaders and outstanding engineers who possess solid theoretical foundations, in-depth professional expertise, dynamic creative thinking, and a global outlook to meet the demands of the AI era.

2. Education and Teaching.

In education and teaching, the SAI fully leverages AI technologies to advance a new university-wide educational system. The School is responsible for developing the AI major, the discipline of Intelligence Science and Technology, and the associated postdoctoral research station. It has established five key disciplinary directions: AI fundamentals, AI technologies, AI systems, AI security, and AI applications. Adopting a dual-track approach—"students in AI majors study AI, while students in other majors apply AI"—the School has developed an "AI+X" integrated curriculum matrix that supports university-wide AI education. This matrix enhances the integration of AI into both social sciences, such as law, philosophy, and education, and science and engineering disciplines, including materials science, mechanical engineering, and weaponry (See **Figure 3**).

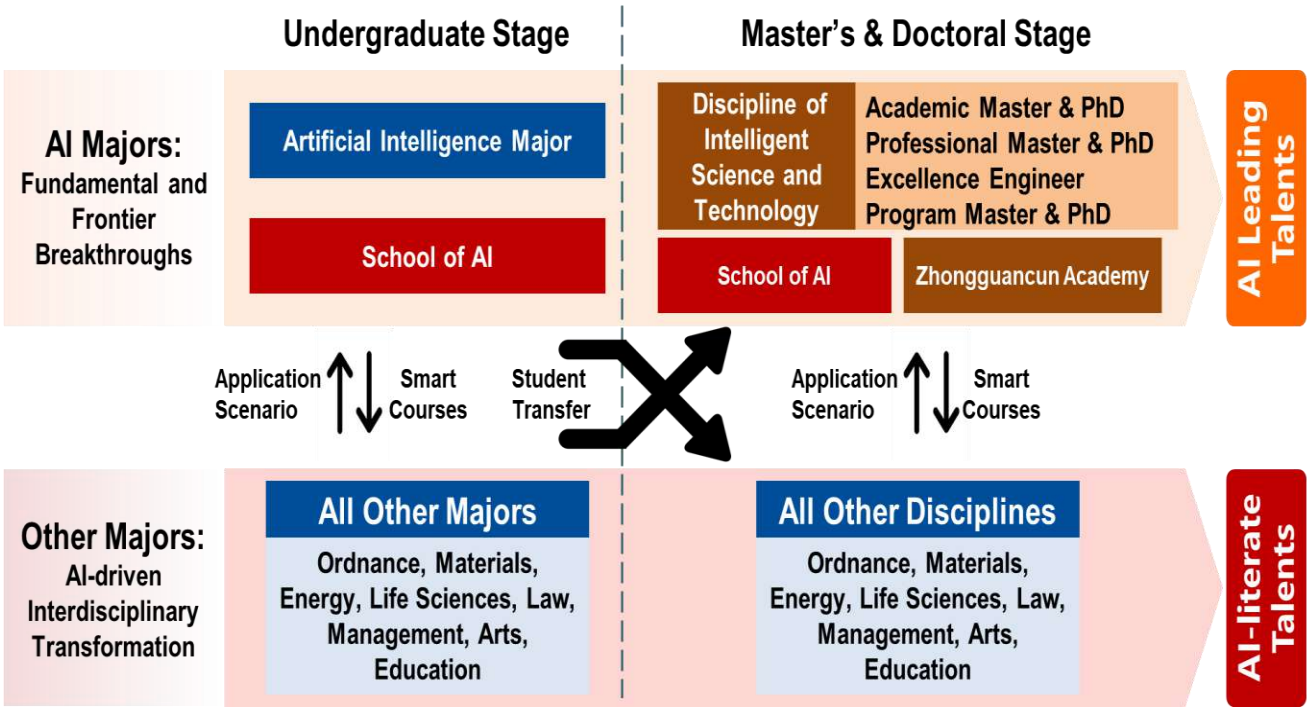

Figure 3. All student AI education at BIT
Source: own elaboration

The "AI Plus" interdisciplinary framework is implemented university-wide at BIT. To meet urgent national strategic needs, the university promotes the integrated development of majors through a model that combines specialized programs, honors classes, and dual-degree opportunities. It has launched its first undergraduate program to systematically cultivate talent in the AI field and is progressively establishing related programs such as Low-Altitude Technology and Engineering, Intelligent Manufacturing Engineering, Intelligent Sensing Engineering, Intelligent Unmanned Systems Technology, and Robotics Engineering. To enhance talent development, the university offers specialized honors classes in AI and has expanded its system of distinctive programs, including the Future Technologies Class, the Li Zexiang Innovation and Entrepreneurship Class, the Xiehe Medical Class, and the International Governance Talent Class, thus forming a comprehensive framework for cultivating top-tier talents in engineering, science, management, and medicine.

The university has also deepened its "AI Plus" dual-degree programs by introducing distinctive combinations such as Law–Artificial Intelligence, Biotechnology–Artificial Intelligence, and Business Administration–Artificial Intelligence. In addition, an AI minor degree is available to all students university-wide. Featuring the themes "AI+X" and "AI+System," the university offers over 200 AI-integrated courses across different levels and modules, embedding the latest applications of AI technologies into instruction across diverse disciplines. Furthermore, the university is exploring the establishment of dual doctoral degrees in AI and actively encourages all students to engage in AI learning. Doctoral candidates are permitted to pursue a master's degree in AI concurrently, supported by a flexible curriculum design that enables them to systematically acquire AI competencies and integrate them with their primary field of study. The **Table 1** shows AI-related majors and disciplines at BIT.

Name of Major or Discipline	Code	Degree	Approval Time	Responsible School
Intelligence Science and Technology (aka Artificial Intelligence)	1405	Ph.D.	2022	School of Automation School of AI
Professional Degree in Electronic Information (Artificial Intelligence)	0854	Ph.D.	2022	School of Automation
Integrated Circuits Science and Engineering	1401	Ph.D.	2021	School of Integrated Circuits and Electronics
Artificial Intelligence	080717T	Bachelor	2019	School of Computer Science & Technology School of AI
Intelligent Unmanned Systems Technology	082108T	Bachelor	2019	School of Mechatronics Engineering
Intelligent Manufacturing Engineering	080213T	Bachelor	2018	School of Mechanical Engineering
Intelligent Perception Engineering	080303T	Bachelor	2020	School of Optics and Photonics
Automation	080801	Bachelor	1953	School of Automation
Robotics Engineering	080803T	Bachelor	2021	School of Automation
Computer Science & Technology	080901	Bachelor	1960	School of Computer Science & Technology
Software Engineering	080902	Bachelor	2002	School of Computer Science & Technology

Table 1. AI-related majors and disciplines at BIT
Source: own elaboration

The university is accelerating the development of a high-quality smart education resource system and advancing the transformation of smart education empowered by AI. Under the leadership of Jun Zhang, Academician of the Chinese Academy of Engineering and Secretary of the CPC BIT Committee, the "Introduction to Artificial Intelligence" course has been developed as an innovative, project-based and experiential learning module, allowing first-year undergraduate students to experience personalized learning in the AI era. Complementary general education courses, such as "Artificial Intelligence and Computational Science" and "Progress in Artificial Intelligence," have also been created, featuring tiered and modular teaching to provide personalized instruction in AI. Students from different disciplines and majors can flexibly combine these modules based on their learning needs.

The university is comprehensively implementing the "Major 101" initiative to cultivate a teaching-oriented and dedicated educational culture. This includes advancing the ABC-level development of core professional courses and offering supporting courses in English, bilingual, and smart formats, with a

target of delivering 100 smart courses. In 2024, BIT was selected in two consecutive rounds as one of only twelve universities nationwide to be recognized by the Ministry of Education for exemplary "AI Plus Higher Education" application scenarios. The course titled "Fundamentals of Digital Electronic Technology" received the AI Special Award from the World MOOC and Online Education Alliance, one of only ten courses worldwide to do so. Additionally, the university secured 18 "Tuojin Plan" model courses from the Ministry of Education, ranking first nationwide; received 18 smart course awards at the National MOOC Education Innovation Conference, again ranking first nationwide; and earned five digital education demonstration cases from the China Educational Technology Association, also the highest number awarded nationwide.

The university is actively advancing AI-driven educational reform under the "Five-Dimensional Education" concept, which integrates four dimensions of time and space with seamless knowledge connectivity. Guided by the framework of "one core, four platforms, and multiple application scenarios," it has developed a comprehensive knowledge graph construction and service system. This system encompasses knowledge graphs for more than 70 undergraduate programs and over 5,000 courses, mapping more than 100,000 knowledge points and over 20,000 knowledge relationships. These efforts have digitized and structured the university's disciplinary knowledge base, providing a robust foundation for smart education. To enhance teaching and learning, the university has introduced intelligent teaching assistants, such as digital instructors and smart tutors, as well as intelligent learning companions, including AI study partners and smart practice coaches. These tools offer AI-powered support throughout the teaching and learning process. In addition, the university has launched "Jinggong Zhijiao"—BIT's smart teaching assistance system—which provides teachers and students with intelligent resources for instructional support and learning guidance, thereby empowering the entire cycle of higher education curriculum delivery.

3. Scientific Research.

In scientific research, the SAI is committed to building distinctive strengths in AI for national security. Following the nation's "Four Orientations" principle, the School continues to advance the breadth and depth of AI-related scientific and technological frontiers. It carries out research and development efforts within the strategic framework of the "Four Ultras"—addressing AI challenges at the ultra-microscale, ultra-macroscale, ultra-extreme conditions, and ultra-interdisciplinary areas contexts. These initiatives aim to overcome critical technological bottlenecks, accelerate the translation of breakthrough discoveries into practical applications, and enhance China's independent innovation capacity in strategic domains such as defense technology and cybersecurity. By comprehensively leveraging AI technologies, the School strives to establish leadership in key areas including microscale intelligence, cross-scale intelligence, military intelligence, and bio-inspired intelligence, thereby supporting the development of new quality productive forces. The SAI aligns its research with national security priorities, leveraging the university's distinguished strengths in top-tier disciplines such as Armament Science and Technology, Control Science and Engineering, and Information and Communication Engineering. Its mission is to develop cutting-edge AI capabilities that serve as essential technological pillars for safeguarding national security in the AI era.

- In the ultra-microscale domain, the School focuses on advancing representative technologies including femtosecond laser chip fabrication, quantum communication and computing, photonic

chips, and molecular intelligent coding design, thereby driving the integration of AI with foundational hardware and basic sciences.

- In the ultra-macroscale domain, research efforts center on integrated air–ground navigation systems, global multimodal knowledge graph construction, and cross-temporal and cross-spatial sensing and intelligent regulation technologies for ultra-long durations and large-scale environments. These initiatives aim to build core capacities that underpin future smart societies and a "Smart Earth."
- In the domain of ultra-extreme conditions, the School collaborates with key national defense and aerospace institutions—including China North Industries Corporation, China Aerospace Science and Technology Corporation, China State Shipbuilding Corporation, and China Electronics Technology Group Corporation—to develop autonomous intelligent unmanned systems capable of operating in highly complex scenarios, harsh environments, and mission-critical conditions. Key research areas include deep-space and deep-sea intelligent exploration, as well as autonomous swarm competition and countermeasure technologies, supporting national security and strategic frontiers.
- In the domain of ultra-interdisciplinary areas, the School leverages bio-inspired intelligence as a driver to promote deep integration of AI with biology, materials science, structural engineering, and control disciplines. This approach promotes a paradigm shift from additive "AI+X" integration to exponential "X^{AI}" synergy, fostering cross-domain collaborative breakthroughs and accelerating the transformation of traditional research paradigms.

The SAI has established a comprehensive "Five News" innovation strategy covering new computility, new algorithm, new system, new security, and new application, with the aim of developing an independent AI ecosystem that integrates military and civilian applications. To address constraints commonly faced in such applications—namely, limited platforms, scarce resources, and small sample sizes—the School has partnered with Baidu, Huawei, and other leading enterprises to jointly establish platforms such as the AI Education Innovation Center and the Kunpeng Ascend Science and Education Innovation Incubation Center. These platforms provide a secure and controllable technological foundation for the entire university's research community, fostering the incubation of original scientific breakthroughs with global impact. This strategy seeks to achieve the goals of "limited platforms with big computing power; small samples driving big data; scarce resources training large models," thereby enhancing the original innovation capacity in AI and robotics technologies.

The School is developing highly autonomous, strongly intelligent, and broadly applicable demonstration projects for military and civilian integration, bridging the full chain from basic AI research to application development, technology transfer, and industrialization. This approach aims to build a robust industry and talent ecosystem grounded in independent, critical core technologies and to establish BIT as a national hub for AI innovation resources, a center for overcoming technological bottlenecks, and a leader in industrial technology for both military and civilian sectors—rooted in Beijing, serving national defense, empowering industries, and radiating nationwide impact.

The SAI actively promotes breakthroughs in cutting-edge AI innovation while facilitating the effective translation of technological achievements. Building on the university's designation as one of the first "Intellectual Property Model Universities" by the China National Intellectual Property Administration and as one of the first "Bases for the Transformation and Transfer of Scientific and Technological Achievements in Higher Education Institutions," the School has developed a well-organized ecosystem for technology transfer characterized by integrated processes and concentrated resource allocation. It

continuously refines mechanisms for innovation transfer, standardizes incubation pathways, improves the technology transfer framework, and strengthens intellectual property planning and management. The School also leads in piloting a new "AI plus technology promotion" model to enhance the dissemination and adoption of scientific and technological outcomes, thus accelerating the implementation and commercialization of AI research results.

AI-related technological innovations have been widely applied in areas critical to national priorities, making significant contributions to the domestic development of core components for intelligent weapon systems, the intelligent upgrading of traditional industries such as manufacturing, the deployment of autonomous driving technologies, and the development of new smart logistics models. In March 2025, in collaboration with Yunji Technology, the School's research team developed a multi-functional autonomous robot that was featured in in-depth reports by CCTV New Media and CCTV News Channel. The jointly developed product series now commands over 90% of China's smart hotel service market and has provided services to more than 500 million users to date.

To advance AI-driven scientific and technological innovation, the SAI has established a dedicated "talent zone" to attract global talent, nurture young scholars, and build an outstanding academic team. The School continues to implement a balanced talent strategy that emphasizes both recruitment and cultivation, as well as integration of industry and education. On one hand, it actively recruits top graduates and high-level research teams from leading domestic institutions such as Tsinghua University, Peking University, and the Chinese Academy of Sciences, injecting new vitality into its research and teaching endeavors.

On the other hand, in line with the trend of international talent returning to China, the School attracts overseas-trained scholars from prestigious universities such as Stanford University and Carnegie Mellon University (CMU), further enhancing the internationalization of its faculty. In addition, the School has brought in engineering and R&D specialists from industry-leading enterprises, including Huawei and Microsoft Research Asia, to deepen the integration of academia and industry. Through these efforts, the School has built a high-caliber faculty team with a balanced structure, strong professional competence, industry leadership, and a global perspective, providing sustained impetus for organized scientific research in the AI field.

4. Administration and Support Services.

In administration and support services, the SAI has pioneered the development of an intelligent operational support system to promote sustainable high-quality growth across the university. The university's Information Technology Center has been upgraded and restructured as the Digital Intelligence Technology Center, which is now fully integrated into the School. Additionally, a university-level Smart Management Office has been established to build an intelligent, interconnected, and highly efficient operational framework. This system provides robust computational infrastructure and intelligent support, aligning with high standards to facilitate the university's digital-intelligent transformation. It offers comprehensive resources for the integrated development of education, scientific research, and talent development, supporting BIT's vision of scientifically organized governance and teaching (See **Figure 4**).

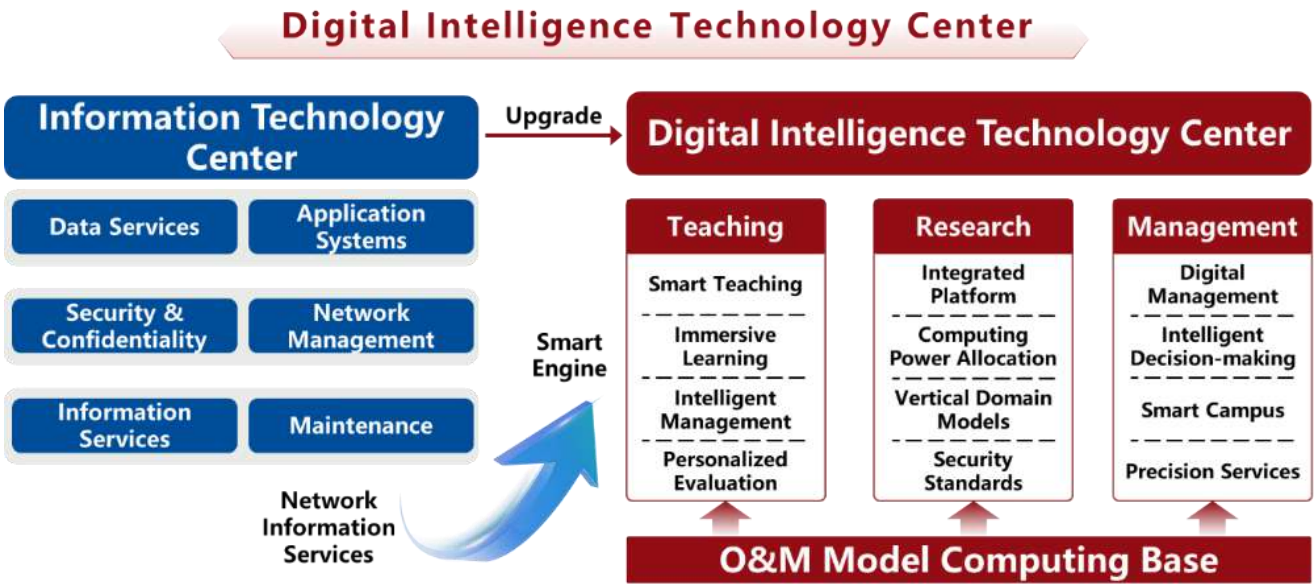

Figure 4. Coordinated construction of the Digital Intelligence Technology Center at School of AI
Source: own elaboration

The Digital Intelligence Technology Center serves as the university's dedicated unit for advancing digital transformation, deepening the comprehensive integration of AI into all aspects of university operations, and building an intelligent operational support system. The Center is primarily responsible for providing technical support and assurance for AI-powered initiatives across the university, comprehensively developing AI-driven models for smart teaching, research, and governance. It oversees the construction, management, and operation of the university's intelligent computing infrastructure, meeting the urgent needs for advanced computing power among teachers, students, and administrators across multiple campuses and disciplines. In addition, the Center is responsible for technical support and assurance in the university's digitalization efforts, the construction and maintenance of information infrastructure, technical safeguards for information security, and the confidentiality management of information systems, devices, and storage equipment. The Center has developed a unified university-wide data middle platform and AI empowerment platform, deeply integrating data resources across teaching, research, administration, and services, thereby eliminating information silos and providing real-time, accurate data to support evidence-based decision-making. As a core institution for driving scientific transformation and intelligent reform in campus governance, the Center is dedicated to building a new smart campus paradigm characterized by data-driven processes, intelligent decision-making, and precision services.

Building on the capabilities of the Digital Intelligence Technology Center, the SAI has spearheaded the development of iBIT—China's first AI-powered personalized virtual assistant for universities. Delivered in the form of a virtual human assistant, iBIT provides faculty and students with tailored intelligent services, marking a significant step forward in ushering the university's smart education into the AI era. iBIT enables precise "scholar profiling" by conducting intelligent analyses of classroom behaviors, including attendance monitoring, teacher–student interaction, and learning status recognition. These analyses generate comprehensive user profiles that help diagnose learning conditions and provide instructors with intuitive insights into students' learning preferences, competency levels, and potential

needs. Moreover, iBIT integrates a suite of intelligent applications that cover key aspects of campus operations, such as course resource recommendations and knowledge tutoring, a one-stop smart assistant for administrative and student services, a financial assistant, and employment support tools. These smart applications not only greatly enhance the efficiency of campus operations and the overall experience of faculty and students, but also fundamentally transform traditional management approaches and service models. They drive a shift in campus governance from "experience-driven" to "data-driven," from "passive response" to "proactive anticipation," and from "one-size-fits-all management" to "precision services," laying a robust digital and intelligent foundation for the university's pursuit of world-class excellence.

The SAI actively leverages AI technologies to build a smart education supervision system and continuously refines the evaluation mechanisms for research outcomes, talent, and laboratories in the context of AI transformation. In collaboration with multiple university departments, the School has established several smart classrooms equipped with intelligent sensor networks that collect multidimensional real-time data, including teaching content, student attendance, eye-tracking data, and classroom interaction frequency. A human–AI collaborative evaluation model has been developed to achieve highly automated classroom teaching quality assessment. This model integrates multiple dimensions—real-time evaluation, formative evaluation, comprehensive evaluation, and comparative evaluation—to track teaching quality throughout the entire process and generate intelligent supervision reports with personalized improvement recommendations. This supports the ongoing enhancement of instructional quality across the university. Furthermore, by deeply integrating AI algorithms with big data technologies, the School has developed the BIT Smart Evaluation System, which automatically retrieves and analyzes research data and provides objective assessments of research outputs, talent, and laboratories across multiple levels and dimensions. This system reduces the time required for traditional research evaluation—previously dependent on manual data collection, expert scoring, and subjective judgment—from nearly one month to less than half an hour. This accelerates the closed-loop iterative improvement cycle in higher education and more effectively optimizes the allocation of educational and teaching resources.

(iii) Strategic Plan for the School's Development

To ensure a strong start and make full use of university-wide resources, BIT SAI will complete the full establishment of its organizational and operational framework by 2025. Key priorities include forming the School's leadership team and appointing dedicated administrative personnel to support daily operations. Also, the School will renovate and occupy its initial offices and laboratory spaces to provide faculty and students with high-quality facilities for teaching and research. What's more, a first cohort of core faculty and researchers will also be recruited and transferred, with particular emphasis on attracting leading international scholars, renowned academics from top domestic institutions, and technical experts from key AI enterprises. To strengthen the research and education ecosystem, the School will build a high-standard AI Science and Education Center and pilot an integrated undergraduate–master–doctoral training program.

Training curricula for all degree levels will be refined and the first groups of students for the "Superior Class" and "Intelligent Class" will be enrolled at both undergraduate and graduate levels. The School will also fully develop the National AI Industry–Education Integration Innovation Platform and introduce

a set of practice-oriented courses that embed industry–education collaboration. In parallel, collaboration with the Digital Intelligence Technology Center will be deepened to ensure that a state-of-the-art intelligent computing hub provides robust hardware and software infrastructure to support the university's comprehensive AI transformation.

The SAI is deepening its development through the "10-11 Project," which embodies the principles of "10 Highs" and "11-Core Competency Matrix." Fully implementing the key directives of the Party and the nation regarding the advancement of AI and smart education, the School refines and executes the construction plans and strategic arrangements set by the university's Party Committee. The "10 Highs" strategy guides the School's development trajectory: high-starting and high-goal strategic positioning, high-land and high-peak discipline development, high-dimension and high-order growth pathway, high-quality and high- efficiency industry–education integration, high-level and high-speed international competitiveness.

In line with this, the School comprehensively cultivates students' moral character and an AI+ competency matrix that emphasizes 11 key abilities: creativity and innovation, tool application, knowledge acquisition, problem analysis, logical thinking, self-motivation, communication and expression, planning and organization, execution capability, leadership and management, and evaluation and decision-making. The School plans to enroll and train 300 undergraduate and graduate students in its first year, expanding to 600 students within three years and reaching a total of 1,000 students within five years.

In alignment with China's goals of national rejuvenation and military modernization, the SAI will actively leverage AI technologies to empower the development of the national security system and to facilitate the deep integration of industrialization and informatization. These efforts directly support key national strategies such as defense modernization, new industrialization, the Made-in-China Powerhouse Initiative, and the Digital China strategy.

The School will maintain a clear focus on the "Four Ultras" leadership and the "Five News" driver of innovation to achieve a leading position in national security. It will promote the accelerated integration of AI with the real economy, comprehensively enabling new industrialization and driving transformations in industrial production modes and economic development patterns. The School will also collaborate with leading AI enterprises to co-develop relevant standards and norms for the industry. In line with the integrated development of education, science and technology, and talent, the School will continue to advance and implement various initiatives for AI-driven transformative talent development. It aims to build a new integrated framework that unites smart education, technological innovation, talent recruitment and development, and modern management services, working diligently toward the goal of becoming a world-class AI school with BIT distinction by 2030.

Conclusion

AI has emerged as a central arena of global technological competition, with the core of this competition resting on the domestic cultivation of high-level talent. BIT has prioritized AI development from an early stage and established a solid foundation through strategic planning and sustained investment. In recent years, BIT has expanded its efforts in AI education, research, and talent cultivation, positioning itself as a national leader in the field.

The SAI integrates resources and expertise both within and outside the university to develop a comprehensive AI ecosystem. In terms of talent development, the School emphasize the training of interdisciplinary professionals through a self-reinforcing AI talent pipeline. In education, it seeks to apply AI technologies to enhance and modernize university-wide teaching and learning practices. In research, the focus is on advancing AI technologies with strategic relevance to national security.

In management service, it is implementing intelligent management systems to facilitate sustainable and efficient campus operations. To further advance its objectives, the School is guided by the "10-11" Initiative and aligns its development with the "Four Ultras" leadership and the "Five News" driver of innovation. The goal is to build an AI innovation hub with a strong core and diverse capabilities, thereby supporting BIT's strategic vision of a fully integrated, AI-driven institutional transformation. The school aspires to become a world-class AI school with BIT distinction by 2030.

Bibliographic references

1. Tan T. The history, current status, and future of artificial intelligence. Qiushi. 2019; (04): 39–46.
2. China Academy of Information and Communications Technology. White Paper on the Development of Global Artificial Intelligence Industry. China Academy of Information and Communications Technology; 2024.
3. Gao W. Seizing the historic opportunity of artificial intelligence development. People's Daily; 2025-02-24(09).
4. Mercer. Global Talent Trends. Mercer; 2024. [Accessed 19 June 2025]. Available in: https://www.mercer.com/insights/people-strategy/future-of-work/global-talent-trends/
5. McKinsey & Company. The Economic Potential of Generative AI: The Next Productivity Frontier. McKinsey & Company, 2023. [Accessed 1 June 2025]. Available in: https://www.mckinsey.com/capabilities/mckinsey-digital/our-insights/the-economic-potential-of-generative-ai-the-next-productivity-frontier#/
6. MacroPolo, Methodology for Global AI Talent Tracker. MacroPolo, 2024. [Accessed 17 June 2025]. Available in: https://archivemacropolo.org/interactive/digital-projects/the-global-ai-talent-tracker/methodology-for-global-ai-talent-tracker-2/
7. Zhang D, Yu S, Zhou G. A study of transdisciplinarity in the context of the transformation of knowledge production. Journal of Zhejiang University. 2024; 54(2): 107–118. [Accessed 2 June 2025]. Available in: https://doi.org/10.3785/j.issn.1008-942X.CN33-6000/C.2023.06.306
8. Zhang J, Zhang Q. Open up a new path for disruptive innovation and development in the field of artificial intelligence. Chinese Social Sciences Today; 2025-02-20(A02).
9. Zheng Q. Artificial intelligence empowering the innovative development of STEM education: Insights and practices. China Higher Education Research. 2025; (01): 1–7. [Accessed 11 June 2025]. Available in: https://doi.org/10.16298/j.cnki.1004-3667.2025.01.01
10. Zhang J. Green education: Reform and transformation of higher education in China in the new era. China Higher Education Research. 2024; (10): 1–10+35. [Accessed 18 June 2025]. Available in: https://doi.org/10.16298/j.cnki.1004-3667.2024.10.01

Conflict of interests:

The authors declare that they have no conflicts of interest.

Authorship contribution:

- Fang Deng: Formal Analysis, Writing-Original Draft, Project Administration;
- Ye Yuan: Investigation, Formal Analysis, Resources;
- Chen Chen: Investigation, Methodology, Writing-Review & Editing;
- Bin Xin: Investigation, Validation, Writing-Review & Editing;
- Bo Wang: Conceptualization, Project Administration.