SIP

Xi'an Jiaotong-Liverpool University
西交利物浦大学

Baidu 百度

XJTLU-Baidu

Artificial Intelligence Innovation Alliance

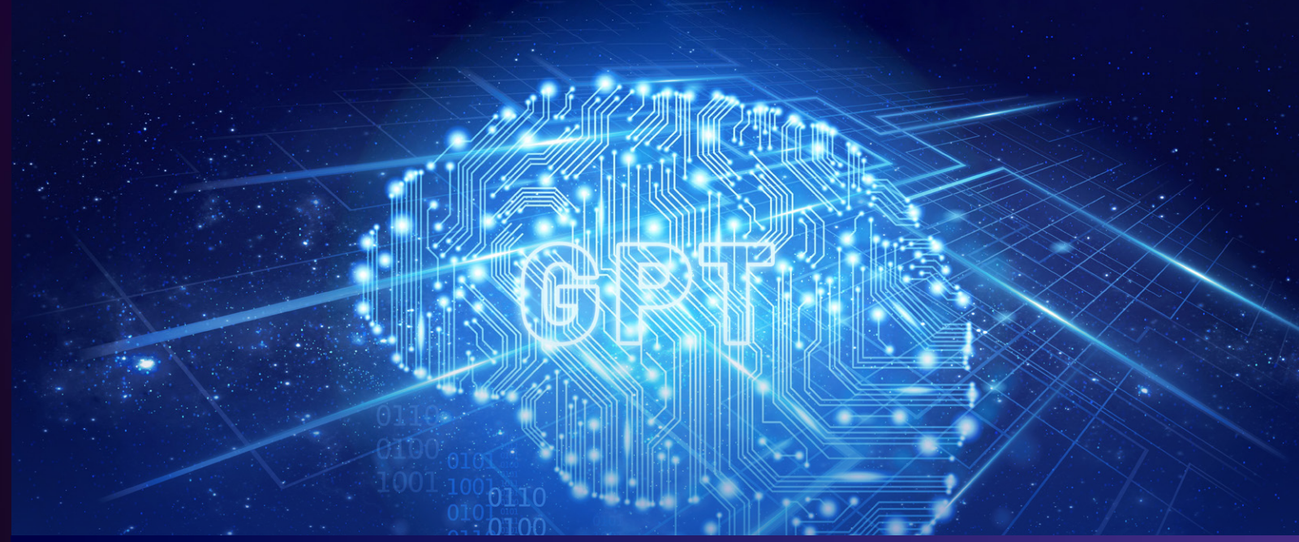
- Education Reform - The Responsibility We Share
- Industry Empowerment - The Common Values We Pursue
- Diversity Integration - The Ecological Solution We Promote

XJTLU | AI INNOVATION ALLIANCE
西浦人工智能创新联合体

XJTLU-Baidu

Artificial Intelligence Innovation Alliance

The XJTLU-Baidu Artificial Intelligence Innovation Alliance is an important initiative of XJTLU to implement the University's development plan for the 2nd fifteen years. Following the establishment of the XJTLU Wisdom Lake Academy of Pharmacy, this is the second initiative that centers around the industrial development strategy of Suzhou and the Suzhou Industrial Park. It actively promotes the integration of science and education, the integration of industry and academia, and proactively promotes the development of an industry ecosystem.



"The era of artificial intelligence has already begun." "The GPT model is the most revolutionary technology in the last 40 years." ——— **Bill Gates**

The Fourth Industrial Revolution, characterized by networking and intelligence, is rapidly evolving towards broader, deeper, and more revolutionary directions due to the rapid development of artificial intelligence technology. The highly anticipated ChatGPT-4 engine showcases its astonishing interdisciplinary creative capabilities. It is clear that, as general artificial intelligence systems continue to iterate and develop, the impact of future technologies will be even more profound, as humanity finds itself on the verge of going through the most significant change since its evolution to Homo Sapiens. Some have started to ponder whether GPT is the beginning of a new civilization for humanity, or the start of the end of our current civilization. Will the vast majority of people be relegated to a class defined by their inability to create value?

However, if we could effectively manage the risks of GPT in terms of transparency and controllability through a "Human + Generative AI" mechanism, we believe that "AI superhumans" with human-like consciousness, but without human physical limitations, might help foster more powerful productivity, additional commercial applications, higher employment rates and superior business prospects for our society. This can create extensive and profound individual, commercial, and social values, leading to a more vibrant and flourishing society and civilization.

Embracing this new world and future requires self-empowerment and consciousness from individuals, organizations, and societies alike. This entails having a stronger generative capability (G), more robust pre-training (P), a proactive spirit and drives for transformation (T), and, most importantly, an innovative and forward-thinking mindset.

The XJTLU-Baidu Artificial Intelligence Innovation Alliance

The XJTLU-Baidu Artificial Intelligence Innovation Alliance is a collaborative initiative between education (Xi'an Jiaotong-Liverpool University), technology (Baidu), and the business community (Suzhou Industrial Park). It is built on shared values, social responsibilities, and future perspectives, with a constant commitment to exploration and excellence in their respective domains. This innovative alliance aims to empower, reshape, and transform future talents, educators, technology, and industries through integrative mechanisms and innovative practices, setting pioneering examples and leading the way for the future.

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01 — Construction Foundation

The XJTLU-Baidu Artifical Intelligence Innovation Alliance (AIIA) is jointly established by the Suzhou Industrial Park Administrative Committee, Xi'an Jiaotong-Liverpool University, and Baidu. It bridges the government, academia, and industry, empowering collaboration between research and business sectors. It is the first comprehensive and cutting-edge innovation alliance in China that focuses on creating chips, frameworks, models, and applications.

Suzhou Industrial Park

- **Manufacturing Stronghold:** A top global industrial hub.
- **Industrial Center:** A national-level industrial cluster.
- **Innovation Capital:** Recognized by the Ministry of Science and Technology as a world-class high-tech park.

Xi'an Jiaotong-Liverpool University

- **Organizational Strengths:** Embracing openness and inclusivity, advanced management, efficient governance, international and local integration.
- **Strong Foundation:** Leveraging the advantages of two-paraent universities, a complete disciplinary foundation, solid research achievements, and a thriving innovation ecosystem.
- **University-level Deployment:** Pioneering efforts in connecting all academic disciplines, driven by a strong sense of responsibility, mission, and ambition.

Baidu

- **Full-stack AI:** One of the few global companies providing full-stack AI technology, including AI chips, software architecture, and applications.
- **Technology Leadership:** Consistently ranked as the national leader in AI patent applications and licensing for five consecutive years.
- **Ecosystem First:** Fostering a flourishing and open AI ecosystem.

02 — Vision and Mission

Vision:

With cutting-edge and forward-looking artificial intelligence (AI) technology as our foundation, we aim to create an efficient "collaboration between society, academia, and industry" model. Our vision is to foster capabilities in talent, technology, education, and industry to fully address the AI development wave.

Mission:

- To cultivate elite talents who possess a solid theoretical foundation and practical skills in AI, as well as interdisciplinary knowledge and innovative mindset.
- To conduct research on the forefront of AI technology, promoting technological breakthroughs and innovative applications that drive industrial advancement in the era of AI empowerment.
- To be a catalyst in developing a high-quality regional AI industrial ecosystem: designing systematic innovations and models, integrating resources and coordinating elements, and catalyzing forward-looking technologies and technological breakthroughs. This will help enhance the industrial ecosystem's competitiveness and foster sustainability in the long run.
- To facilitate the establishment of regional AI talent hubs, technology clusters, and gather industrial resources and international collaborations.

03 —
Development Plan

The XJTLU-Baidu AIIA is the first alliance of its kind in China that builds on frontier technologies and seamlessly integrates artificial intelligence chips, deep learning frameworks, algorithmic models, and commercial applications.

Xi'an Jiaotong-Liverpool University - PaddlePaddle AI Industrial Academy

Talent Development (China's first "AI Large-Scale Model" education system)

With the aim of cultivating high-level and versatile AI talents, it focuses on the guiding principles of "student-oriented, industry-focused, and integration of education and industry" to create the first AI Large-Scale Model education system.

Baidu AI Cloud Qianfan Large-Scale Model Platform (Suzhou) Innovation Center

Technical Research (China's first "Large-Scale Model Industry, Academia, and Research Innovation Center")

- It is dedicated to core technology research in cloud intelligence, integrating Baidu's core advantages in AI, cloud computing, and big data domains. The center aims to promote industrial digital transformation, drive innovation in core technologies, and achieve technological breakthroughs.
- It is also involved in establishing large data platform infrastructures for energy, healthcare, and government sectors. It will nurture and attract a group of versatile AI talents to achieve significant theoretical breakthroughs in areas such as multi-modal data theory, digital twin model construction, and AI drug development.

XJTLU-Baidu Industrial Empowerment Center

Ecosystem

- Centered around key high-value industries in the country, Suzhou City, and Suzhou Industrial Park, its systematic ecosystem empowers and efficiently aids in optimizing industrial structures, leads the entire industry chain towards strengthening and supplementing weak links, and achieves broad and quantifiable ecosystem benefits.
- Focus Areas: Intelligent Carbon Reduction, Biomedical, Smart Cities
- It stands as the first "Smart Carbon Empowerment Center" in China (initial phase project).

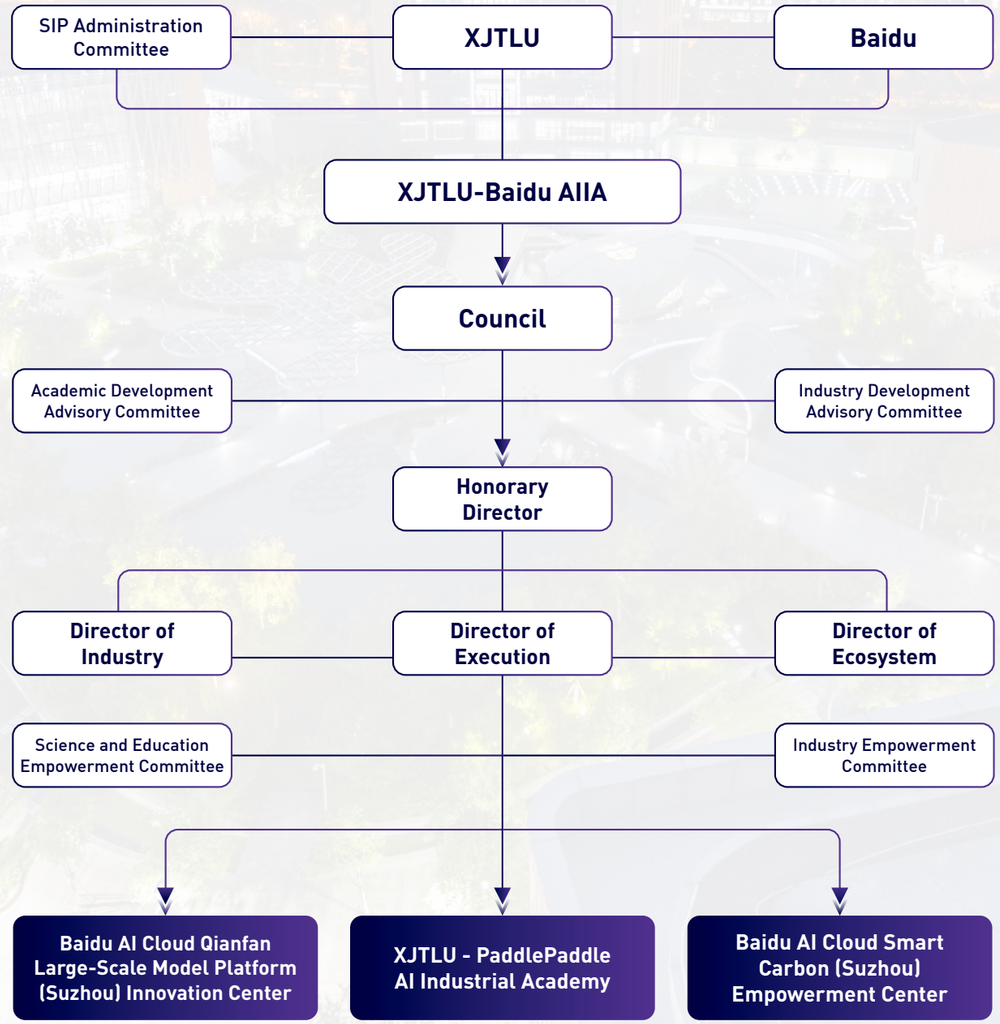
04 —
Governance Structure

Governance and Management:

The alliance is governed by a council consisting of representatives from the government, university, businesses, and independent external experts, which exercises the highest decision-making authority and operates under a directorship system.

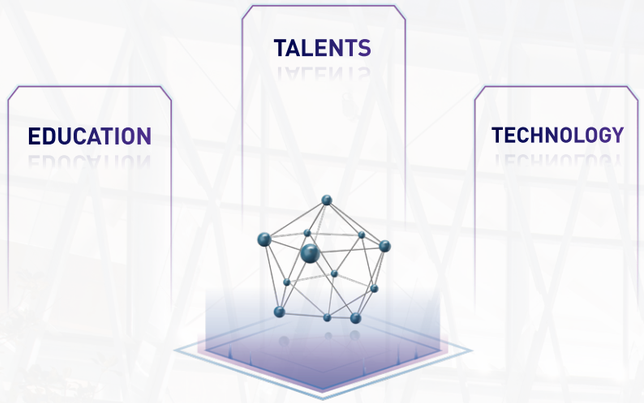
Development Consultation:

Within the council, there are two separate committees - the Industry Development Advisory Committee and the Academic Development Advisory Committee. These committees function as independent development advisory bodies.



05 —
Ecological Blueprint

In addition to the three main segments, the alliance aims to achieve collaborative innovation among society, industry, education, and research through a comprehensive service platform that covers capital, think tanks, intellectual property, technology brokers, data intelligence, legal services, and more. This platform will actively establish cooperative mechanisms with industrial alliances, supplemented by extensive international cooperation platforms and experiences. The goal is to achieve integration among education, talents, and technology, creating a new ecosystem, building new models, and pioneering new practices.

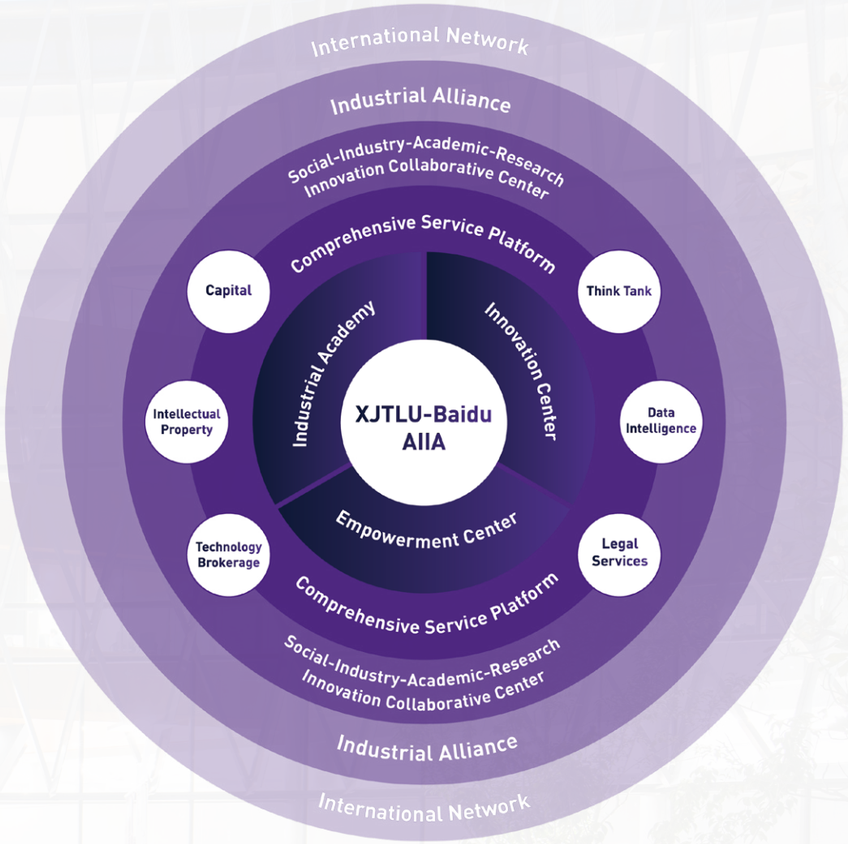


The intertwining and mutually reinforcing relationship between technology and education has been the driving force behind humanity's continuous progress for thousands of years, forming a dual spiral structure. Each significant technological revolution has had a profound impact on the organization and lifestyle of human society. Today, as the wave of AI approaches us with an irreversible momentum, the XJTLU-Baidu AIIA becomes the key that allows us to actively embrace the future and embrace change.

Breaking away from traditional models, the alliance promotes the deep integration of industry, academia, and research, forging a seamless "industry-academia-research" innovation chain. With a more open approach to society, it gathers innovative elements and resources. XJTLU is determined to pioneer and practice a brand-new educational model that blends science and education and integrates industry and academia. It aims to facilitate the fusion of the talent chain, innovation chain, industry chain, and funding chain, laying the foundation for creating a collaborative ecosystem for AI innovation.

The future has already arrived, and we are all part of it.

Ecological Blueprint



06 —
Initial Objectives 2023-2026

Talent Cultivation

- Establish the first AI Large-Scale Model education system, promoting interdisciplinary integration and communication, and setting the benchmark for teaching in AI.
- Collaborate in building a practical training ground for AI talent development.
- Facilitate case-based teaching to bridge the gap between industry and education, ensuring seamless integration between theory and practice.
- Provide learning and training certification services for AI professionals, establish an industry-recognized qualification certification system.

Industrial Technological Breakthroughs

- Breakthrough in key technologies for large-scale model applications to facilitate deep integration between the industrial chain and the innovation chain.
- Utilize applied research to drive foundational research and secure high-quality national/international patents.
- Focus on applications and provide underlying technological infrastructure to support industrial empowerment solutions.
- Establish a nationally recognized AI innovation platform.

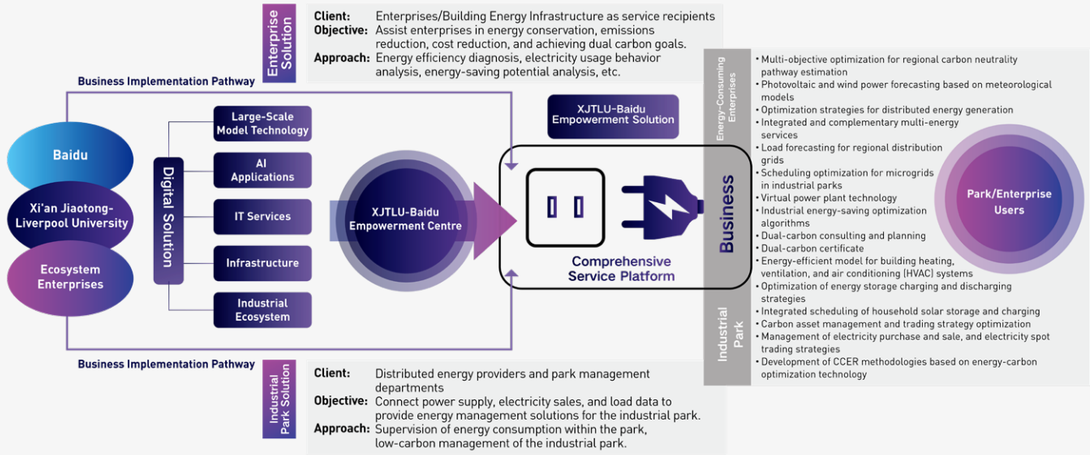
Industrial Ecosystem Empowerment

- Develop proprietary models for specific vertical industries to accelerate the process of turning research into practical applications.
- Introduce industry-specific solutions for areas like smart carbon, biomedicine, and smart cities.
- Facilitate the integration of AI + X model with specific industry applications.
- Establish targeted industry alliances along key value chains.
- Create an industry empowerment platform.

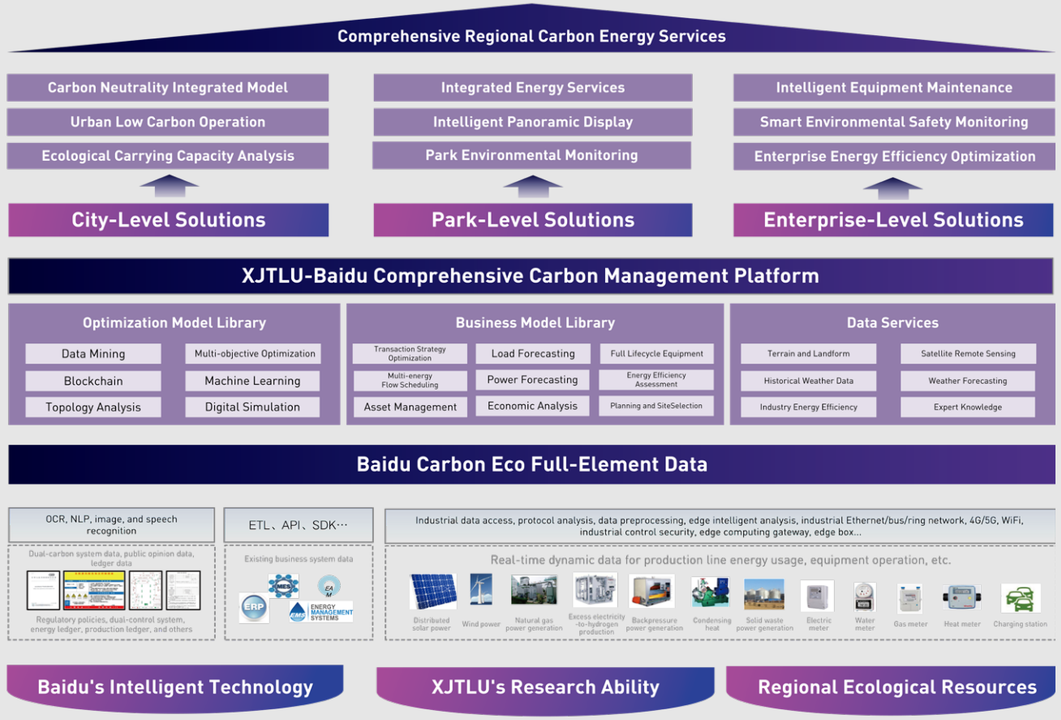
Wide Regional Service and Impact

- Organize international "Large-Scale Model" series annual forums.
- Host or participate in influential domestic academic competitions such as the China Software Cup for University Students' Design.
- Establish an intelligent public technology, resource-sharing, and information exchange platform for AI+ industries.

Empowerment Scheme of Intelligent Carbon Reduction Empowerment Center



Collaborative Ecology of Intelligent Carbon Reduction Empowerment Center



07 —
Introduction of Partners

Suzhou Industrial Park

A major collaboration between the governments of China and Singapore, Suzhou Industrial Park ("SIP") serves as an important window for the world to understand the progress achieved by China and Jiangsu Province.

29 years since its establishment, SIP has adhered to the principles of "integrating industry with the city" and consistently executed its long-term vision. It is the only provincial-level headquarters within the economic area for foreign companies in Jiangsu. Furthermore, it has been designated as a “National Base for Overseas High-level Talents for Innovation and Entrepreneurship" and an “Innovation and Entrepreneurship Base for Overseas Talents," achieving an impressive seven consecutive wins in the comprehensive assessment of National Economic Development Zones.

As one of the few regions in China that maintains overlapping functions of a National Economic Development Zone, National High-tech Zone, Free Trade Experimental Zone, and Independent Innovation Demonstration Zone, SIP is home to two major national advanced manufacturing clusters: nanomaterials and biopharmaceuticals, along with high-end medical equipment. It has also established major innovation platforms such as the Suzhou Laboratory, National Biopharmaceutical Technology Innovation Center, National Third-Generation Semiconductor Technology Innovation Center, and National New Generation Artificial Intelligence Innovation Development Pilot Zone. SIP has been recognized as a National Demonstration Base for Industrialization and one of the first National-level Demonstration Zones for Building an Intellectual Property Powerhouse. These achievements have marked a breakthrough in transforming the industrial park into an innovation-driven hub.

On July 5, 2023, during his visit to SIP, President Xi Jinping emphasized the need to strengthen the integration between scientific and technological innovation and industrial innovation, fostering deep collaboration between enterprises, universities, and research institutions. The goal is to strive for creating a world-class high-tech SIP that excels in open innovation.

SIP

Xi’an Jiaotong-Livepool University

Xi'an Jiaotong-Liverpool University ("XJTLU") was established in 2006 through a partnership between Xi'an Jiaotong University and the University of Liverpool in the United Kingdom. It is a distinctive, independent international university and the largest Sino-foreign cooperative university in China.

Currently, XJTLU comprises 19 schools and two teaching centers, offering a total of 45 undergraduate programs, 45 master's programs, and 16 Ph.D. research programs. It focuses on developing emerging interdisciplinary subjects such as artificial intelligence, intelligent manufacturing, biomedicine statistics, and microelectronics science. The university has over 23,000 registered students, including nearly 5,000 master's and Ph.D. students. It boasts a faculty of around 1,600 professionals, with over 40% being foreign nationals.

Guided by future trends and its unique features, XJTLU has implemented three education models. First, the XJTLU 1.0 education model focuses on cultivating international professional elites and creating its own education model and quality assurance system. Second, the XJTLU 2.0 model aims to foster internationally-oriented industry elites through an integrated education approach. Lastly, the XJTLU 3.0 education model fosters an innovative and entrepreneurial ecosystem in education, research, and industry.

In anticipation of the upcoming era of artificial intelligence, XJTLU has take the initiative to prepare itself over the last few years. It has already established two schools related to artificial intelligence: the School of Advanced Technology and the School of AI and Advanced Computing (AIAC). These institutions have laid a solid foundation for disciplinary development and cultivated a vast community of experts, which has been instrumental in the establishment of the XJTLU-Baidu AIIA.

Xi'an Jiaotong-Liverpool University 西交利物浦大学

Baidu

Baidu is a leading AI company with strong Internet foundation. Baidu is one of the very few companies in the world that offers a full AI stack, encompassing an infrastructure that consists of AI chips, deep learning framework, core AI capabilities, as well as an open AI platform to facilitate wide application and usage. Baidu has been named by international organizations as one of the top four leading global AI companies. With its mission to “make the complicated world simpler through technology”, Baidu promotes constant technological innovation, and is committed to being a top global technology company which best understands users’ needs and enables their growth.

Baidu was founded on January 1, 2000. Robin Li, Baidu’s Co-founder and CEO, was awarded a U.S. patent for his development of the Rankdex site-scoring algorithm for search engine page rankings, making China one of only four countries in the world that has developed core search engine technology, along with the United States, Russia, and South Korea.

Based on our search engine, Baidu has developed AI capabilities including voice, images, knowledge graph, and natural language processing. For the past ten years, Baidu has been investing in cutting-edge fields such as deep learning, conversational AI operating systems, autonomous driving, and AI chips.

Baidu Brain integrates the company’s general AI capabilities, making available nearly 1400 AI capabilities. Baidu Kunlun 1, a cloud-to-edge AI chip, currently provides computing power for search functions, assisting AI cloud ecosystem partners, and serving a wide variety of AI scenarios, offering high performance with high cost efficiency. The new generation 7-nm chip Kunlun II has begun mass production, with processing power three times that of the previous generation. For algorithms, PaddlePaddle is the first deep learning framework developed in China. Equivalent to an operating system in the era of AI, it has attracted 5.35 million developers and served 200,000 enterprises. For five consecutive years, Baidu has held the most AI-related patents and has filed the most AI-related patent applications in China.

Baidu has established leading advantages in AI computing power, algorithms, open platforms, and developer ecosystem, together forming Baidu AI Cloud’s differentiating competitiveness — “Integration of Cloud and Intelligence” — currently undergoing accelerating strong growth. Baidu AI Cloud is ranked No. 1 in China’s AI public cloud market. Baidu AI Cloud’s leading products, technologies, and solutions are being adopted by sectors including smart manufacturing, smart financial services, smart city, smart energy, and smart healthcare. Baidu’s ACE Transportation Engine is the world’s first full-stack intelligent transportation solution that integrates vehicle, road, and mobility.

Baidu 百度

Message from the Executive President of XJTLU, Prof. Xi Youmin:

How will AI advance and evolve? How will it work and integrate with mankind? The XJTLU - Baidu AIIA is our attempt to create a platform that can empower our society to unlock the power of innovation, driving infinite possibilities within an open-ended ecosystem.

Message from the Executive Vice President of Baidu, Dr. Shen Dou:

The strategic partnership that Baidu enters into with XJTLU enable us to integrate and leverage resources across industry, academia, and research for the benefit of the public. The grand journey lies ahead, with AI as the oar, bringing together all the talents so we can stride forward into the distant waves.

Message from the Academician of the Chinese Academy of Sciences, Honorary Director of XJTLU - Baidu AIIA, Prof. Guan Xiaohong:

I hope that the XJTLU-Baidu AIIA can empower the initiative of “Smart Manufacturing in China" to set a leading example through practical applications, advancing technology, and promoting industrial upgrading.

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Innovation Alliance official website

Innovation Alliance wechat public account