中国新一代人工智能科技产业区域竞争力评价指数

（2020）

China's New Generation AI Technology Industry
Region Competitiveness Evalution Index

中国新一代人工智能发展战略研究院
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内容概要

《中国新一代人工智能科技产业区域竞争力评价指数(2020)》[1]的编制旨在科学评估人工智能科技区域产业发展和竞争力现状，分析决定和影响产业发展“极化”和“扩散”的关键因素和动力机制，考察各地区产业发展政策体系的有效性和环境状况。

从创新生态系统的视角，本报告的人工智能科技产业区域竞争力评价指标体系包括 6 项一级指标和 10 项二级指标：（1）企业能力方面的企业规模和企业创新能力；（2）学术生态方面的 AI 大学和非大学科研机构创新能力；（3）资本环境方面的融资和投资；（4）国际开放度方面的核心人力资本开放度和技术开放度；（5）链接能力方面的链接者；（6）政府响应能力方面的政府响应。在二级指标之下，再从数量和质量两个维度设立相应的 24 项三级指标。

本报告采用层次分析法计算各级指标的权重。指标计算的数据是来自包括 797 家人工智能企业、1915 个投资者（投资机构和非投资机构）、109 所 AI 大学和 103 家非大学科研机构、截至 2019 年在中国境内召开的 1870 场会议、190 家产业联盟、31 个省市自治区出台的 577 个相关政策和 301 家人工智能产业园区规划建设情况在内的中国智能经济样本数据库。

从中国人工智能科技产业区域竞争力指数综合排名看，北京市、广东省、上海市、浙江省和山东省在人工智能科技产业的发展上排在第一梯队，分值分别为 81.7、45.5、30.2、27.1 和 23.3。排在第二梯队的省市自治区包括江苏省、辽宁省、四川省、安徽省、湖南省、天津市、陕西省、湖北省、黑龙江省和福建省，分值分别为 19.9、10.8、10.7、10.6、9.7、9.7、9.4、8.7、8.0 和 7.9。

从评价指数的分项排名看，产业竞争力排名较高的省市自治区都是人工智能企业较为聚集的区域。城市经济转型和升级过程中创造出的智能化需求，是引致创新资源集聚和产业发展的关键因素。学术生态评分较高的省市自治区，例如，江苏省（2）、陕西省（5）、吉林省（7）在人工智能科技产业发展上没有表现出相应的水平和能力。反而是学术生态排名分别位列第十一、十三、十六名的山东省、安徽省和湖南省，在人工智能科技产业的发展上走在了全国前列。以智能化需求为导向，构建和培育富有活力的创新生态系统，是区域人工智能科技产业发展的前提和基础。

对四大经济圈人工智能科技产业区域竞争力进行综合评价，京津冀总评分为 96.4 分，位列四大经济圈首位，长三角 77.0 分位列第二，珠三角 45.4 分位列第

[1] 受数据采集限制，本报告的样本数据库不包含中国台湾地区、香港特别行政区和澳门特别行政区的企业样本。因而，本报告中的新一代人工智能科技产业区域竞争力评价指数不涉及中国台湾地区、香港特别行政区和澳门特别行政区。

三，川渝 18.5 分位列第四。

在人工智能科技产业城市竞争力评价指数排名中，北京市、上海市、深圳市、杭州市在人工智能科技产业的发展上位居前四名，分值分别为 80.3、30.5、28.6、22.4，明显高于其他城市，是城市人工智能科技产业发展的第一梯队。

2019 年初至今，是中国人工智能科技产业发展的攻坚之年。美国技术封锁的持续升级、新冠肺炎疫情的冲击和新基础设施计划的推出，给中国人工智能科技产业的发展带来了新的挑战和机遇。随着新基础设施计划的实施，消费互联网的升级和产业互联网的启动，预示着人工智能科技产业步入关键阶段。其中，人工智能与实体经济的深度融合成为经济社会发展的重要驱动力。因而，融合产业部门的发展是未来影响人工智能区域产业竞争力的关键变量。应用场景的开放、产业智能化创新生态系统的形成、数据生态优势的提升和政产学研协同创新机制的发展，是决定人工智能科技产业区域发展和竞争格局的关键。

Abstract

"China's New Generation AI Technology Industry Regional Competitiveness Evaluation Index (2020)" [1] is compiled to scientifically evaluate the status quo of the industry development and competitiveness of AI Technology regions, analyze the key elements and dynamic mechanism of "polarization" and "proliferation" that decide and influence the development of AI Technology Industry, and systematically exam the effectiveness of policy systems and the development environment that facilitate the industrial developments of various regions.

From the perspective of innovative ecosystem, the AI Technology Industry Regional Competitiveness Evaluation Indicator System of this Report includes 6 Tier one indicators and 10 Tier two indicators: (1) Enterprise Capabilities: enterprise size and innovative capability; (2) Academic Ecology: innovative capabilities of AI Universities and non-university scientific research institutions; (3) Capital Environment: financing and investment; (4) International Openness: core human capital openness and technology openness; (5) Linking Capability of linkers; (6) Government Responsiveness Capability. Under Tier two indicators, 24 Tier three indicators are generated from the angles of quantity and quality.

Analytic hierarchy process is adopted in this Report to compute the weight of indicators at all tiers. Data used for computing indicators are collected from 797 AI enterprises, 1915 Investors (institutional investors and non-institutional investors), 109 AI Universities, 103 non-university scientific research institutions, 1870 conferences held in China in 2019, 190 industrial alliances, 577 policies issued by 31 provinces, cities and autonomous regions and 301 AI industrial parks planning and construction conditions.

In view of China AI Technology Industry Regional Competitiveness Index Comprehensive Rankings, Beijing, Guangdong Province, Shanghai, Zhejiang Province and Shandong Province are in the first echelon and their scores are respectively 81.7, 45.5, 30.2, 27.1, and 23.3. Provinces, cities and autonomous regions in the second echelon include Jiangsu Province, Liaoning Province, Sichuan Province,

[1] Subject to the restrictions of data collection, the sample database of this report does not contain the enterprise samples in the Hong Kong and Macao special administrative regions, and in Taiwan, China. Accordingly, the evaluation index of the regional competitiveness of China's new generation artificial intelligence technology industry in this report does not include the Hong Kong and Macao special administrative regions, and Taiwan, China.

Anhui Province, Hunan Province, Tianjin city, Shaanxi Province, Hubei province, Heilongjiang Province, and Fujian Province, with the scores of 19.9, 10.8, 10.7, 10.6, 9.7, 9.7, 9.4, 8.7, 8.0 and 7.9 respectively.

Seen from the sub-item rankings in the evaluation index, provinces, cities and autonomous regions ranking among the top by industrial competitiveness are the regions where AI enterprises are gathered. The intelligent demand arising from urban economy transformation and upgrading are the key elements that lead innovative resource gathering and industrial development. Provinces, cities and autonomous regions with high scores in terms of Academic Ecology, such as Jiangsu Province (2), Shaanxi Province (5), and Jilin Province (7), haven't shown corresponding level and capability in the development of AI Technology Industry. Shandong Province, Anhui Province and Hunan Province, ranking 11, 13, and 16 in terms of Academic Ecology, are leading the development of AI Technology Industry in China. With intelligent demand as the orientation, cultivating and building innovative ecosystems with great vitality are the prerequisite and foundation of the development of AI Technology Industry.

Based on the comprehensive evaluation of the Regional Competitiveness of AI Technology Industry in the Four Big Economic Circles, it is shown that Beijing-Tianjin-Hebei Region scored 96.4, ranking first in the Four Big Economic Circles; Yangtze River Delta scored 77.0 and rank the second; Pearl River Delta scored 45.4 and ranked third; and Sichuan and Chongqing scored 18.5 and ranked fourth.

AI Technology Industry city competitiveness Index Rankings showed that Beijing, Shanghai, Shenzhen, and Hangzhou are the top four in the development of AI Technology Industry, with the scores of 80.3, 30.5, 28.6, and 22.4 respectively. These scores are much higher than other cities. These four cities are in the first echelon in terms of the development of AI Technology Industry.

Since the beginning of 2019, China's AI Technology Industry has been at a critical stage of development. The constant upgrading of the technology blockade from America, the impact of the COVID-19 and the launch of new infrastructure plans have brought new challenges and opportunities to the development of China's AI Technology Industry. With the implementation of the new infrastructure plan, the upgrading of the Consumer-Oriented Internet and the launch of the Industrial Internet, AI Technology Industry has entered a critical stage. Nowadays, the deep integration of AI and real economy has become an important driving force to promote economic

and social development. Therefore, the development of integrative industrial sectors is a key variable that will influence the industrial competitiveness of AI areas in the future. The opening-up of application scenario,the formation of industrial intelligence innovation ecosystem, the improvement of data ecological advantages and the development of government-industry-university-research collaborative innovation mechanism are essential to determine the regional development and competitive landscape of AI Technology Industry.

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