When News Meets Algorithms: How Traditional Media Embraces the Post-Print Era in the Age of Intelligence

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Abstract

While academia has yet to reach a unified definition of artificial intelligence, the media industry has reached a consensus on the importance of AI technology. The question of how traditional media can embrace the intelligent era when news meets algorithms has become a hotly debated topic. On October 17, Jiang Yudong, Algorithm Director at Xinhua Zhiyun, shared his professional insights on the exploration and future of AI in the media domain.

Full Text

Preamble

While academia has yet to reach a unified definition of artificial intelligence, the media industry has reached a consensus on the importance of AI technology. The question of how traditional media can embrace the intelligent era when news meets algorithms has become a hotly debated topic. On October 17, Jiang Yudong, Algorithm Director at Xinhua Zhiyun, shared his professional insights on the exploration and future of AI in the media domain.

Jiang Yudong noted that since 2011, the core of artificial intelligence has relied on high-quality, large-scale, human-annotated data combined with deep neural networks. The main fields of AI comprise two major components: machine perception and machine cognition. In machine perception, the two most significant breakthroughs since 2011 have been speech recognition and computer vision, as exemplified by Siri, smart speakers, beauty and body effects, autonomous driving, unmanned supermarkets, medical imaging, and more. In machine cognition, breakthroughs in natural language understanding, automated reasoning, and interaction have proven relatively difficult. Current examples include Microsoft Xiaoice, intelligent assistants, AlphaGo, and smart diagnostics.

Regarding how traditional media can advance toward intelligence, Jiang Yudong emphasized the need to approach from a macro perspective of the entire news industry, starting with popular vertical niches to identify practical application scenarios, collecting sufficient data, and deeply accumulating data resources. On this foundation, organizations must continuously iterate and update algorithms, refine model design, stay close to application domains, and use practical applications to advance vertical field development while gradually expanding into related areas.

The Importance of Data

In 2011, Professor Li Feifei's research group at Stanford University created the ImageNet dataset, containing 14 million images and over 20,000 category labels. Professor Li stated that ImageNet brought a major shift to the AI field: people suddenly realized that the painstaking work of dataset construction is central to AI research. The field truly understood that datasets are as crucial as algorithms for research progress. Building high-quality, large-scale, human-annotated datasets represents the most core work in AI development.

Professor Jiang Jinzhang from the School of Media and Design at Shanghai Jiao Tong University noted that as AI develops, the relationship must evolve from unidirectional machine learning from human brains to humans also learning from machine intelligence, ultimately achieving co-development.

AI and the Future of Humanity

The primary task of contemporary artificial intelligence is learning patterns from large-scale, high-quality annotated data. Whether AI will replace humans remains a widespread concern in AI development.

Jiang Yudong stated that current algorithms can only solve large-scale repetitive labor, while creative work will not be replaced by AI. Renowned science fiction writer Hao Jingfang, when describing the relationship between AI and human activity, observed that technology has always transformed humanity throughout history. The relationship between technology and humans is one of mutual advancement. The fear that AI will replace humans is based on imagining what humans would do if machines took over our current work. However, as we enter the future technological era, there will be tens or hundreds of times more human activities. Comparing contemporary human life with the past, human activity has actually progressed even faster than technology itself.

In the future, when AI permeates every aspect of human life, it will bring convenience and intelligence. Humans will be liberated from repetitive labor and elevated to higher levels to engage in more creative work. Although AI may eventually paint, write novels, and create art, this does not encompass the entirety of human creativity. Human creativity includes deep understanding of existing society, personal aesthetics, and unique perception—this process from

zero to one is truly unique.

Algorithmic Values

Another prominent concern in AI development is whether algorithms possess values.

An algorithm is a description of steps to solve specific problems, represented in computers as a finite sequence of instructions where each instruction represents one or more operations—deep learning being one type of algorithm. Two factors determine algorithm optimization direction: first, how to design the objective function, and second, the data itself. Objective function design requires quantifiable metrics, including click-through rates, conversion rates, and return on investment. However, moral character, emotion, and aesthetics are difficult to quantify. In this regard, machines still require collaboration with humans. Therefore, the values behind algorithms are ultimately human values.

Intelligent Editorial Departments

Liu Siyang, Deputy President of Xinhua News Agency, stated that AI platforms are becoming the infrastructure for media innovation and development. In December 2017, Xinhua released China's first media AI platform, "Media Brain," independently developed by Xinhua Zhiyun, a joint venture between Xinhua News Agency and Alibaba. At launch, the platform included eight intelligent products: "Caimi" (news gathering), facial verification, intelligent chatbots, speech synthesis, copyright monitoring, user profiling, news distribution, and "2410." The flagship "2410" product enables 24/7 real-time online operation, generating an article within 10 seconds. In June this year, Xinhua released Media Brain 2.0, the MAGIC intelligent production platform, to the global audience.

Note: Figure translations are in progress. See original paper for figures.