

Artificial Intelligence Application Practices and Implications in US and UK News Media (Post-print)

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Abstract

, and Ask CNN. Users can click through to read full stories, understand synopses, or ask the CNN bot questions.

Full Text

AI Application Practices and Implications in US and UK News Media

By Wan Ke

In recent years, American news organizations have closely tracked developments in artificial intelligence, applying the technology to news topic selection, information gathering, content production, and distribution channels. This has ushered news production into an “intelligent” era, with efforts concentrated in three key areas worth emulating.

1. Saving Labor and Improving Efficiency

News organizations have widely adopted “robot journalism” for data-intensive reporting in areas such as finance, sports, and disaster coverage, freeing journalists from tedious, routine tasks to focus on more in-depth reporting. The Associated Press began partnering with Automated Insights in 2014, using the Wordsmith platform to read financial reports and automatically generate data-driven business news based on templates provided by editors. This AI system also possesses “self-learning” capabilities, mastering basic journalistic standards within three months while improving article quality through lower error rates. AP’s next AI initiative involves automatically converting text reports into audio broadcasts.

The Washington Post has developed nearly 100 “intelligent robots,” the most notable being Heliograf, which debuted during the Rio Olympics. Heliograf can automatically generate stories from real-time data sources, mine massive information streams to help reporters discover exclusive angles, and provide personalized stories for readers. During the Rio Games, Heliograf obtained up-to-the-minute information from sports data companies and automatically compiled it into briefs for immediate publication. On the day of the 2016 US election, it tracked voting results and automatically generated emails and tweets. In 2012, four Washington Post reporters spent 25 hours manually compiling partial election results; in 2016, Heliograf produced 500 reports with virtually no human intervention. The Post plans to use Heliograf for continuous updates to both human- and machine-generated content—for instance, if someone shares a Tuesday article on Thursday, Heliograf can automatically add the latest facts. Heliograf may eventually possess full news-writing capabilities, with journalists only needing to provide relevant facts, analysis, and perspectives while the robot completes the final article synthesis.

The *Los Angeles Times* became the fastest media outlet to report on the 4.4-magnitude California earthquake in 2014, taking only three minutes from writing to publication, thanks to a system that automatically populates templates with data upon receiving information from the US Geological Survey. Additionally, the *LA Times* is building an AI-powered crime database to assist in reporting on violent incidents and suicides, though the system has not yet achieved deep analytical capabilities.

Thomson Reuters’ algorithmic prediction tool helps journalists assess tweet credibility, monitoring potential news based on “credibility” and “news value” metrics. Its judgment criteria include who is tweeting, how messages spread across networks, and whether users are attempting to verify or debunk breaking events.

USA Today uses the Wibbitz AI production software to generate short videos, which can compress news reports into video scripts, string together selected images or footage, and even add narration. Reuters’ partnership with Graphiq has also proven effective, leveraging Graphiq’s massive visual database and intelligent algorithms to pre-identify potential news events and rapidly extract relevant data to match reports—essentially providing data materials for news stories and saving editors’ time.

Reuters is also developing a sports reporting tool that automatically produces slideshow-style short videos from NBA game images, with commentary extracted from automatically generated three-paragraph reports.

2. Monitoring Trending Public Opinion and Breaking Events

The Washington Post’s Heliograf demonstrates multiple capabilities in this domain. The Associated Press utilizes NewsWhip’s social network monitoring system to support reporting decisions. NewsWhip has monitored news across social platforms including Facebook, Twitter, Instagram, Reddit, LinkedIn, and

Pinterest since January 2014, scanning data every two minutes across 100 countries and 30 languages. Through algorithmic analysis, the company reportedly can predict 79% of major trending stories, informing users which content spreads most widely among global audiences and which reporting approaches work best, enabling editorial departments to make more effective coverage decisions. AP reporters and editors have all received NewsWhip training to monitor breaking news in their regions and languages.

Buzzfeed has launched BuzzBot, a chatbot initially designed to cover the Republican and Democratic National Conventions that has evolved into an open-source reporting tool powered by robot assistance. Unlike other news bots that provide services like news recommendations or online food ordering, BuzzBot collects news materials by interacting with users—convention delegates, protesters, and anyone on the scene—helping BuzzFeed produce coverage. Users can directly send photos or other information to BuzzBot, which occasionally asks questions or requests details about their experiences.

The *New York Times*' Blossomblot analyzes big data from social platforms to predict which content types will trend hotter, assisting editors in selecting appropriate materials. Internal statistics show that articles selected by Blossomblot receive 38 times more clicks than average articles. Additionally, Blossomblot's machine learning capabilities can provide image suggestions and other enhancements.

3. Enhancing User Interactive Experience

As social messaging applications like Facebook Messenger, WhatsApp, Snapchat, and iMessage flourish, American media increasingly value cultivating personal relationships with users. In April 2016, Facebook Messenger launched Chatbot, helping media outlets effectively combine content with conversational mechanisms, with participating media gaining rights to develop their own bots.

CNN was among the first to adopt Facebook Messenger chatbots, launching a personality-based distribution bot that pushes headline news to users daily. Below each daily update, three options appear: Read Story, Get Summary, and Ask CNN. Users can click through to read full stories, understand synopses, or ask the CNN bot questions.

The *New York Times* developed the NYT Politics Bot, modeled after one of its political reporters, using his voice to deliver daily presidential campaign updates to readers. This strengthens intimacy in reader communication and creates a one-on-one interactive experience.

Challenges and Implications

Based on comprehensive practices in US and UK media, data science and AI applications are bringing tremendous convenience to news production and organizational methods while also presenting significant adaptive challenges:

First, how to enhance technical reserves and innovation capacity, and build and maintain comprehensive, accurate databases to ensure algorithm-generated news remains error-free. Constructing and maintaining robust, precise databases forms the foundation of algorithmic news generation. Only by ensuring the accuracy of original data input into algorithms can the resulting news be reliable. The algorithms themselves also require continuous improvement, demanding greater technical reserves and innovation capacity from news organizations. US and UK media generally adopt a combined approach of in-house development and outsourced partnerships.

Second, how to transform editorial and distribution business processes to seamlessly integrate with AI systems. The introduction of AI systems will first change the production methods for primary news products such as stock market, currency, and financial reports, inevitably requiring adjustments to editorial workflows and staffing arrangements, and potentially even changes to business unit structures. Editorial department functions and personnel needs will naturally evolve. Intelligent reporting systems themselves require maintenance and monitoring, particularly needing experienced editors responsible for inputting reporting templates, updating them, monitoring machine errors, and ensuring workflows become more efficient.

Third, how to strengthen technical training for traditional editorial staff and build a new-generation editorial team better adapted to AI reporting systems. The new generation of journalists must not only be “multi-media” professionals in the general sense but also “cross-disciplinary” talents—proficient not only in reporting, writing, editing, and distribution but also in data analysis and computer technology, understanding how AI systems operate and how to reasonably apply them in reporting.

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

Source: ChinaXiv — Machine translation. Verify with original.