

Original Research Article

Research on AI-powered short video news communication models

Zhengkun Zhou

Jiangsu Broadcasting Corporation, Nanjing, Jiangsu, 210000, China

Abstract: Short videos have become an important channel for the public to get news, and artificial intelligence is further changing how news materials are collected, content is processed, platforms distribute information, and anchors present it. When technologies like speech recognition, generative AI, recommendation algorithms, and virtual humans enter the news production process, they can shorten the time needed to organize information, improve video production efficiency, and enhance how well the content matches the audience. This article looks at actual tools and applications like iFlytek Listening, Jianying, Douyin's recommendation system, Baidu Xiling, and Xinhua's AI-synthesized anchors to analyze the specific ways AI empowers short video news broadcasting, while also emphasizing that fact-checking, human review, and value control should still run through the entire news production process.

Keywords: artificial intelligence; short video news; smart collection; algorithm recommendation; virtual anchor

1. Introduction

The popularity of mobile devices has gradually shaped a news consumption habit where short videos are an important entry point. Breaking news, livelihood info, government updates, and social hot topics often need to be collected, edited, and published in a short amount of time. The traditional workflow relying on manual transcription, editing, voiceovers, and distribution is under a lot of time pressure. Nowadays, AI tools can already help with things like interview processing, subtitle generation, video editing, user recommendations, and digital anchors. Research on these technologies should focus on how they fit into actual newsroom workflows and platform distribution systems, analyzing their efficiency and limitations.

2. Smart collection drives rapid gathering of news material

Digitizing news materials isn't new, but after AI large models came into play, the core shift at the collection end has moved from just improving the efficiency of grabbing information to continuously monitoring, analyzing, and predicting trends with multimodal information. When it comes to short video news, the front-end collection usually includes live footage, reporter recordings, interview audio, photos, text notes, and publicly available online info. When sources are scattered, reporters first need to transcribe, categorize, and pick out key content. Speech recognition tools can speed up this process. Take iFly Tek Hear as an example: after a reporter finishes an interview, they can import recordings or videos into the system to generate transcripts and use the speaker differentiation feature to organize multi-person interviews. For materials from press conferences, community visits, or exhibitions that take a long time, editors can first locate names, dates, places, and key statements from the transcript, then check the corresponding original audio or video clips, which cuts down the time spent scrubbing through footage. For breaking news, reporters can upload clips and audio from their phones in real-time, while editors use the transcripts to make a material list and separate on-site facts, interview opinions, and background info. The main value of smart collection is in organizing materials and making retrieval more efficient. In practice, background noise, people talking over each other, dialects, and specialized terms can cause errors, so editors mark possible mistakes and cross-check them against interviewee cards, on-site footage, and original recordings. When it comes to key info like accident causes, casualties, or policy numbers, it's still necessary to rely on original on-site records, official reports, and verified results to avoid speech recognition errors directly appearing in the final draft.

3. Smart generation boosts news content production efficiency

Within the media industry, the introduction of smart digital devices and technologies has sped up the digitalization of news content production. When short video news enters the production stage, tasks like script compression, subtitle creation, voiceover, scene combination, and aspect ratio adjustment need to be completed. AI video tools like Jianying already offer features such as AI-generated videos, AI voiceovers, subtitle recognition, and multi-track editing, which are suitable for handling news videos with clear information and relatively fixed structures. For example, when local media produce short videos about weather updates, traffic changes, event previews, or policy services, editors can first create a verified basic script and then use AI features to generate initial subtitles, voiceover, and scene arrangement. After that, humans adjust the pacing of scenes, subtitle duration, news titles, and information hierarchy. Generative AI can also help compress lengthy meeting materials into short video scripts, reorganizing content based on lead, core facts, scope of impact, and service tips. But news production cannot treat automatically generated content as ready-to-publish. Statements involving organization names, data, dates, and policy conditions need to be checked against the original material one by one; any AI-added background info should be deleted or re-verified. A reasonable workflow is to use AI for draft generation and mechanical tasks while leaving fact judgment, interview selection, title decision, and publishing responsibility to human editors. Additionally, for vertical short videos, manual checks are needed for character placement, subtitle blocking, and exposure of key information in 9:16 frames to avoid automatic cropping affecting the completeness of the news content, thus maintaining accuracy while speeding up production.

4. Using algorithms to accurately recommend news content

After short video news is produced, whether it can reach the users who really need the information is closely related to the platform's recommendation system. Platforms like Douyin use recommendation algorithms and content understanding systems to handle short videos, live streams, and image-text content, and then distribute it in a personalized way based on users' viewing habits, time spent, interactions, and content features. When it comes to news dissemination, the same piece of content can take different paths depending on the platform's system, based on topics, locations, and user interests. For example, local heavy rain warnings, road construction, and public transport changes have obvious regional relevance, so the platform will prioritize showing these to users in the relevant areas, which boosts the actual reach of public information. Tech, finance, or sports news, on the other hand, can reach corresponding interest groups based on users' long-term reading and viewing behavior. Media accounts can also use backend data to track completion rates, drop-off points, and engagement to adjust how much information appears at the start, video length, and how titles are expressed. Algorithmic recommendations improve distribution efficiency, but they can also cause users to keep seeing similar topics. For instance, many media accounts, aiming for quick traffic, tend to repost or adapt existing news content instead of creating original plans and in-depth coverage. So, when news organizations chase clicks and completion data, they should still maintain continuous coverage of important public issues and avoid using exaggerated headlines or overly emotional visuals just to please the algorithm, making sure that the value of the news isn't completely controlled by traffic metrics.

5. Expanding news content presentation with virtual anchors

Digital human technology allows news broadcasting to go beyond real-life anchors to intelligent virtual presenters. The AI-generated anchors launched early by Xinhua have already applied technologies that synthesize real anchors' appearance, voice, and lip movements for news reporting, showing that virtual anchors have a solid foundation for media use. Currently, products like Baidu Xiling and Tencent Cloud's Smart Digital Humans also offer features like digital human avatars, voice synthesis, and lip-syncing, which can be used for news updates, policy explanations, and sign language services. In short video news, virtual anchors are well-suited for content that's fairly consistent in format and updated frequently, like weather, traffic, government announcements, and sports stats. After editors finish reviewing the script, the system can generate the spoken video, then add live footage, graphics, and source credits, which helps reduce repeated recordings and studio usage. For routine updates at night or during holidays, digital humans can maintain a consistent presentation style. Once the technology matures, AI-generated news

anchors can extend from professional journalism to short video news, boosting real anchors' reach and offering a more economical, efficient, and diverse way to deliver news. However, for disaster coverage, major public events, or stories requiring emotional connection, there's still no substitute for reporters on the scene. Media should also clearly mark if anchors are AI-generated or digital when using virtual presenters, to avoid audiences mistaking them for real people on site.

6. Conclusion

AI's impact on short video news has expanded from just being a production tool to covering the whole process of collecting, generating, distributing, and presenting content. Voice transcription can speed up interview organization, AI video tools can cut down on repetitive editing, recommendation algorithms improve information reach, and digital humans expand ways to convey frequent news. How well it works depends on how technology aligns with journalistic standards. News outlets need to set up systems for keeping original material, verifying key information, reviewing AI-generated content, and marking AI involvement, putting human judgment at key points so tech efficiency serves the goal of delivering truthful, accurate, and effective information.

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