AI-ASSISTED MISINFORMATION DETECTION IN REAL-TIME STREAMING PLATFORMS: A CONTENT-AWARE APPROACH

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Misinformation is incorrect, false, or misleading information that can be spread intentionally or unintentionally. In recent years, this phenomenon has been widely disseminated through social networks, media platforms, including real-time broadcasts. Specifically, the risk of misinformation sharply increases in situations such as political campaigns, pandemics, and natural disasters. Although AI-based systems have become an important tool for detecting misinformation, understanding the real-time context and conducting deep content analysis remains a pressing issue.

Characteristics of PlatformsReal-time platforms such as Twitch, YouTube Live, Facebook Live, X (formerly Twitter Spaces), and TikTok Live broadcast information live.

These types of platforms have the following characteristics:

• High-speed flow of information

• Limited moderation and oversight capabilities

• Multi-user interactivity

• Complexity of monitoring by AI

Characteristics of the spread of misinformation

Emotional tone in statements: emotional impact is strong in real-time.

a) Unverified information spreads quickly.

b) Visual and audio elements complicate the detection of misinformation.

AI models use natural language processing (NLP) approaches to identify misinformation:

• Analyzing the inconsistency between the headline and content

• Identifying detached or out-of-context phrases

• Emotional analysis (sentiment analysis)

For visual misinformation (photos, graphics, memes),

AI employs:

• DeepFake detection

• Checking the consistency between images and text

• Detecting anomalies in frames

Multimodal models AI is developing multimodal models that analyze text, audio, video, and context together.

1. CLIP (Contrastive Language–Image Pre-training)

2. MMF (MultiModal Framework)

When detecting misinformation, it is necessary to consider not only the facts but also the logical and semantic accuracy of the content.

For this, AI relies on:

• Analyzing the context of the information

• Identifying the speaker's intention

• The linguistic and stylistic features used

Transformer-based models (BERT, RoBERTa, GPT) can deeply analyze text context during real-time translation. They:

• Analyze the previous and subsequent parts of the text.

• Assess the consistency within a topic.

• Check the logical connections of facts.

Zero-shot / Few-shot Learning – flexible in learning new misinformation.

Continual Learning – continually updates the model based on new data in the stream.

Monitoring during the COVID-19 pandemic AI systems developed by Google, Facebook, and WHO achieved the following:

• Identifying false information about drugs

• Detecting and blocking false information about vaccinations

• Identifying facts from the speech of doctors During the US presidential elections (2020), AI was used on platforms like

Twitch and YouTube Live for:

- Monitoring false political statements
- Analyzing text subtitles
- AI agents assisting moderators

Bots created with artificial intelligence can perform moderation tasks in real-time chats.

Sending real-time alerts about content that spreads misinformation to users.

AI-aware platforms will integrate

AI layers that detect misinformation on YouTube, TikTok, and Twitch.

In summary, the widespread nature of misinformation negatively impacts societal stability, health care, political processes, and trust systems. Real-time streaming platforms have become one of the most important sources in this regard. The possibilities for detecting and eliminating misinformation are expanding through content-aware approaches enabled by AI. However, these technologies still face many challenges. Nevertheless, AI-based monitoring systems are

expected to become the most important tool in the fight against misinformation in the future.

References

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