

AppTek to Display Advancements in Artificial Intelligence Technologies for Subtitling and Captioning Workflows at IBC in Amsterdam

Following its success at NAB, AppTek, a leader in Artificial Intelligence (AI), Machine Learning (ML) and Deep Neural Network (DNN) technologies, will demonstrate its Automatic Speech Recognition (ASR) and Machine Translation (MT) models tailored for the media and entertainment industries at this year's IBC Conference in Amsterdam. AppTek's technologies are designed for language service providers and content owners to support their subtitling and captioning workflows, so as to reduce manual labour and thus overall production time.

As audiovisual content is rapidly expanding across the globe, the need for accessing and localising such content is also increasing. AppTek's scientists invest significant time and resources training machine learning models specifically on broadcast media and entertainment content, including millions of subtitle data points across a wide array of languages. This enables AppTek to deliver more accurate and syntactically pleasing automated subtitles which provide a significant jump-start to the subtitling workflow.

To further enhance the subtitling process, AppTek's scientific team worked on a separate model of Intelligent Line Segmentation (ILS) to ensure speech and translated output can be exported in an appropriate subtitle format. Specifically, text is laid out in subtitle lines segmented according to syntax and semantics, instead of speaker pauses, which has been the predominant method employed by mainstream ASR and MT providers to date. The AppTek model, based on a novel subtitle segmentation algorithm, predicts the end of a subtitle line given the previous word-level context using a recurrent neural network learned from human segmentation decisions. It is designed to respect subtitle length and duration constraints established in the subtitling industry. This results in subtitle output much closer to what a professional would produce.

Yota Georgakopoulou, an industry expert in Audiovisual Localisation, conducted a case study with professional subtitlers who post-edited AppTek's adapted MT output and stated: "AppTek's Automatic Speech Recognition and Machine Translation, coupled with Intelligent Line Segmentation, raises the bar in the quality of automated subtitles. The case study on machine translated subtitles confirms the importance of appropriate text segmentation and showcases how this can help professionals take advantage of MT technologies in subtitling workflows." The results of the case study were published in the Proceedings of the Fourth Conference on Machine Translation (WMT), which took place in early August.

To learn more about AppTek and to view the demonstration of its ASR, MT and ILS capabilities in major European languages and language pairs, visit the company at IBC Booth A47 in Hall 14.