

An AI analysis service platform for predicting outcomes in e-sports tournaments

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ETRI Unveils AI Analysis Service Platform at International E-sports Tournament_1. Credit: Electronics and Telecommunications Research Institute(ETRI)

ETRI's researchers have developed an AI-powered e-sports analysis

platform that provides real-time win rate prediction services by analyzing gameplay screens. This platform was notably applied to the highly popular League of Legends (LoL) during a recent international e-sports tournament, garnering positive feedback.

Electronics and Telecommunications Research Institute (ETRI) has developed a technology that recognizes real-time [game](#) situations by analyzing play elements extracted from game videos and automatically generates highlights by identifying key play events in the game.

Also, this e-sports service platform, based on AI, not only records gamer profiles from gameplay data but also suggests corresponding play strategies. Overcoming dependence on traditional game developers paves the way for expansion across various game genres, significantly aiding in the creation of new services and commercialization.

Unlike previous services that were limited to commentary-focused broadcasting due to restricted access to game developer APIs, the research team has developed technology that provides various predictive information in addition to key gameplay indicators through real-time game screen analysis.

The e-sports service platform developed by ETRI offers a suite of software technologies for various game genres, including real-time game situation recognition, automatic highlight generation, gamer profile creation, and play strategy recommendations, all in real-time.

This platform marks a global first in providing real-time win rate prediction technology based on video analysis at an international e-sports tournament. By developing a prediction model that takes into account the specific characteristics of different game phases, it has achieved over 87% accuracy in predictions.



ETRI Unveils AI Analysis Service Platform at International E-sports Tournament_2. Credit: Electronics and Telecommunications Research Institute(ETRI)

Additionally, the researchers have developed a service for automatically generating game highlights by leveraging technology to recognize key in-game events. Unlike existing services, this allows users to select highlight content based on their preferences, offering versatile applications.

ETRI has developed technology capable of analyzing large-scale play data to create not only individual gamer profiles but also team-level profiles. This innovation enables the recommendation of precise and

systematic training programs, extending even to the provision of multifaceted play strategies.

This technology was transferred to Loud Corporation and provided at various events last year, including the 15th Presidential Cup Amateur E-sports Tournament, the 2023 E-sports University League, and the 2023 Korea-China-Japan E-sports Tournament. Furthermore, plans are in place to soon introduce an automatic highlight generation service to the market.

Looking ahead, ETRI plans to develop an e-sports service operation automation platform aimed at supporting small and medium-sized enterprises, as well as local e-sports venues, which are facing challenges in securing human resources and developing new services.

Kim Kyung-hwa, the Director of the Cultural Industry Policy Office at the Ministry of Culture, Sports and Tourism, stated, "As the global e-sports industry is experiencing significant growth and its influence on other industries is increasing, we plan to actively support the discovery of creative service models through the convergence of new technologies to secure a leading position in the industry."

Jung Il-kwon, assistant vice president of ETRI's Content Research Division, also noted, "The [real-time](#) win rate prediction technology applied at the 2023 Korea-China-Japan E-sports Tournament operates independently of the game developers' APIs, showcasing excellent scalability. We plan to apply this technology to various genres of e-sports, providing an enjoyable viewing experience for the audience and contributing to the revitalization of e-sports broadcasting services."

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