Editorial

We are pleased to publish the final issue of the sixteenth volume of the **Journal of Multimedia Processing and Technologies**, featuring the following papers.

In the opening paper, "**Exercise Movement Recognition Using 3D Convolutional Neural Networks For Intelligent Physical Education"**, the author presented an exercise movement recognition system based on 3D Convolutional Neural Networks (3D CNNs) to enhance intelligent exercise teaching. The author addressed limitations of traditional instruction—such as lack of real-time, personalised feedback—by leveraging 3D CNNs to extract spatiotemporal features from exercise videos for accurate motion classification. The experimental results proved the model's strong potential to support instructors with real-time movement analysis and personalized student feedback.

In the following paper, **"Robust 3D Ball Tracking in Team Sports using Multi-View Fusion and Enhanced ECO-Kalman Framework**," the authors introduced a 3D ball tracking framework tailored for complex team sports environments, such as basketball and football, where challenges like occlusion, small object size, and dynamic backgrounds hinder accurate motion analysis. The proposed method integrates a small object detection network based on multiscale features with the Faster R-CNN architecture to improve 2D ball detection across multiple camera views. The introduced design effectively addresses real-world issues such as occlusion, lighting variation, and camera calibration errors, providing a robust solution for sports video analysis. This

In the last paper, "**Intelligent Weld Seam Error Correction Using 3D Visual Localization and Machine Learning**," the authors presented a model for correcting weld seam errors in intelligent robotic welding systems using three-dimensional (3D) visual localization technology. The proposed approach integrates 3D visual sensing (via laser scanning or structured light) with machine learning algorithms, such as Support Vector Machines and deep neural networks, to accurately identify and classify weld seam geometry from point cloud data. The performance evaluation outcome proved high accuracy, with a relative error of only 0.38% in distance measurement and endpoint positioning errors ranging from 2.5 to 4 mm, meeting industrial standards for crane beam welding.

We hope to bring more research in the forthcoming issues.

Editors