World Academy of Science, Engineering and Technology
International Journal of Electrical and Computer Engineering
Vol:18, No:10, 2024

Image Processing techniques for Surveillance in Outdoor Environment

Authors : Jayanth C., Anirudh Sai Yetikuri, Kavitha S. N.

Abstract : This paper explores the development and application of computer vision and machine learning techniques for real-time pose detection, facial recognition, and number plate extraction. Utilizing MediaPipe for pose estimation, the research presents methods for detecting hand raises and ducking postures through real-time video analysis. Complementarily, facial recognition is employed to compare and verify individual identities using the face recognition library. Additionally, the paper demonstrates a robust approach for extracting and storing vehicle number plates from images, integrating Optical Character Recognition (OCR) with a database management system. The study highlights the effectiveness and versatility of these technologies in practical scenarios, including security and surveillance applications. The findings underscore the potential of combining computer vision techniques to address diverse challenges and enhance automated systems for both individual and vehicular identification. This research contributes to the fields of computer vision and machine learning by providing scalable solutions and demonstrating their applicability in real-world contexts.

Keywords : computer vision, pose detection, facial recognition, number plate extraction, machine learning, real-time analysis, OCR, database management
Conference Title : ICCEEE 2024 : International Conference on Computing, Electrical and Electronic Engineering
Conference Location : Osaka, Japan
Conference Dates : October 28-29, 2024