Abstract:

Artificial intelligence (AI) pose estimation has emerged as a promising tool for objective gait analysis and activity recognition. In this paper, we present a novel approach for using AI pose estimation to detect gait abnormalities by creating an auto encoder that is trained to identify normal walking, running and jogging activity from abnormal gait activity. Auto-encoders are a class of artificial neural networks that have become increasingly popular in recent years. They are capable of learning compressed representations of high-dimensional data through unsupervised learning, without requiring explicit labels. Our approach utilizes deep learning algorithms to extract features from vision based pose data. We then apply machine learning techniques to classify gait patterns as either normal or abnormal. We evaluate our approach on a dataset of patients with various gait abnormalities and demonstrate high accuracy in detecting abnormalities. Our results suggest that AI pose estimation has the potential to revolutionize gait analysis and improve clinical decision-making for patients with gait abnormalities.