Investigating the Application of Computer Vision to Assess and Regulate Human Posture

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In the advent of the digital age, the severity of posture related health issues is increasing significantly. To solve this issue, this research aims to create a simple posture detection and analysis program. The algorithm is able to analyze the posture of a person in a video in real time. To design the algorithm, a convolutional neural network and image processing techniques were used. Through these methods, the outline of the person in question was created, and this outline was optimized by a quadratic function to create a more simplistic representation, which can be interpreted in a variety of different ways. Furthermore, by analyzing the frames continuously, it is possible to graph how the posture of the person changes in real time. Finally, by simplifying the program into various functions and modules, it was possible to make it more accessible for the public, both for developers, and other professionals that are not specialized in computer programming.

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