

AUTO WESTERN DANCE TRAINING TOOL

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Abstract

Machine learning is an application of artificial intelligence (AI). It gives the capability to automatically learn and improve from previous experience to system without being explicitly programmed. The main objective is to allow the machines to learn and understand automatically devoid of any human interaction or involvement and regulate action mechanically. Deep learning is sub set of machines learning in AI (Artificial Intelligence). It mostly concerned with algorithms inspired by the structure and function of the brain called artificial neural networks. Deep Learning is a subfield of machine learning and concerned with algorithms stimulated by artificial neural networks which is the structure and function of the brain. Pose Net is the machine learning model (deep learning) which is performing human pose estimation of the skeleton.

Auto western dance training (AutoWDT) Tool is a web base application which is capable of evaluating the student's performance by comparing with the teacher's dance performance and retrieve more accurate and effective results for each and every important postures of the student dance performance with less cost consumption and manpower. AutoWDT Tool provides accurate and efficient results by using Human Pose Estimation model which is implemented by python language and by using the very accurate and efficient algorithm to calculate the angle of human poses.

AutoWDT Tool provides very efficient and accurate results for each and every posture in significance of a human body. It should be easy to find and realize the pattern or reason of the error of the students' postures, Since the system is giving plus (+) and minus (-) values as angle differentiation of both teacher and the students' performance. That means if the student pose is less than the teacher poses for a particular frame, it will retrieve the differentiation between the teacher and the student angle as plus (+). If the student posture is greater than the teacher posture, it will retrieve the differentiation between the teacher and the student angle as minus (-). Furthermore, it is possible to identify minute differentiation of the student and teacher in the each and every posture's angle in very adequate manner.

Keywords: AutoWDT Tool, Machine learning, Deep learning, Pose Net, Python.