

Deep Judge 项目简介

针对竞技赛事中，人工裁判两方面的不足。一方面，人工裁判员不可避免的会出现误判的情况；另一方面，一名富有经验的人工裁判也需要大量的时间，财力去培养。我们从 0 到 1 构建带有标签的跳水数据集，借助深度学习在视觉领域的优势，打造了一款基于深度学习和 Intel Caffe 的跳水打分系统。主要功能有以下三个：

- 一．智能打分：使用 FocNet(深度学习模型)对用户上传的跳水视频给出分数
- 二．躯干识别：使用 PoseNet(深度学习模型)识别上传视频中的关键点，以便清晰的展示跳水过程，并通过特征可视化来展示打分的可靠性
- 三．动作分析：使用 ActionNet(深度学习模型)对上传视频进行动作分析，给出整个过程中精彩及不足的地方，以帮助运动员改正

Nowadays, a large number of human judges participate in sports games such as Diving and Gymnastics. However, because of the human's subjectivity caused by intentions or instability, the grading may not correspond to players' performance in one single event. This will unfortunately harm not only players but also countries and nations.

With the help of Intel Caffe, we are committed to building a diving sports scoring evaluation system based on deep learning. Our model is based on 3D convolution and LSTM to achieve the following functions:

- Firstly, we can make a stable and accurate score given a diving video.
- Secondly, we can build a model to recognize the key points of human.
- Thirdly, we will analyze the detail motions of diving events, pointing out the problems of human motions.

Deep Learning has changed our lives. The stability and fairness of machine fit the sports judge well. In addition, we hope that there will be more followers to focus on the sports judging systems, and transfer our idea to other games besides diving.