Intro

We are excited for your continued interest in Onform. As part of our process, we require a project to be completed. Our intent here is to give you a small sample of the kinds of problems we are tackling at Onform and also assess mutual fit for problem solving, technical and communication abilities. We look forward to working with you on this problem. We know you are working full-time and so definitely want to be sensitive to your other commitments. Allocate no more than a week's time (assuming you'll work on it weeknights and a weekend) for its completion.

Problem Statement

You will be provided with a 2D video of a person performing a golf swing. Alongside the video, you will receive a JSON file containing the 2D pose for each frame of the person in the video. The task at hand is to smooth the 2D poses and correct the location of joints where the provided 2D pose estimation is inaccurate. This includes addressing cases of extreme occlusion.

Please note the following before proceeding:

- Feel free to use any algorithm of your choice. You can also try multiple algorithms, and in your report, you can discuss the pros and cons of each method.
- You need to submit the assignment as a package; details of which are provided below.
- Please note that your algorithm should utilize the given 2D Pose as input to further rectify it. You cannot directly apply any other state-of-the-art algorithm for pose estimation to the provided 2D video.

Submission Format

Feel free to name the scripts in whatever format you prefer. Ultimately, we will execute the scripts on a GCP GPU instance (a Linux machine). Suppose your inference script is

named 'inference.py.' This script will take a 2D video and its corresponding 2D Pose JSON file as input. The output will be another 2D video with overlaid 2D Poses (both old and new) on top of it. Additionally, the script will return the corrected 2D Pose as JSON, maintaining the same format as the original JSON.
Please create a short presentation of your approach. You will be required to present your work in front of the entire team at Onform.

Data

Please find a link here to the data. It contains three columns. Column 1 is video Id, Column 2 is URL to the json that contains 2D Pose and Column 3 is the link to Video File.
In case you need more data, feel free to email your query at sarthak@getonform.com.
For any other queries, you can directly contact Sarthak at +91-8899999007.