# Submission file

Although all original landmarks (68 for face, 24 for body and 21 for each hand) are provided in the annotations file, you will include only a selected subset of them in your submissions. You will find the functions "filter_face_landmarks", "filter_hand_landmarks", "filter_body_landmarks" in the *parser.py* file inside the starting kit provided. These functions generate the subset of landmarks to be evaluated from the original sets of face, hands and body landmarks.
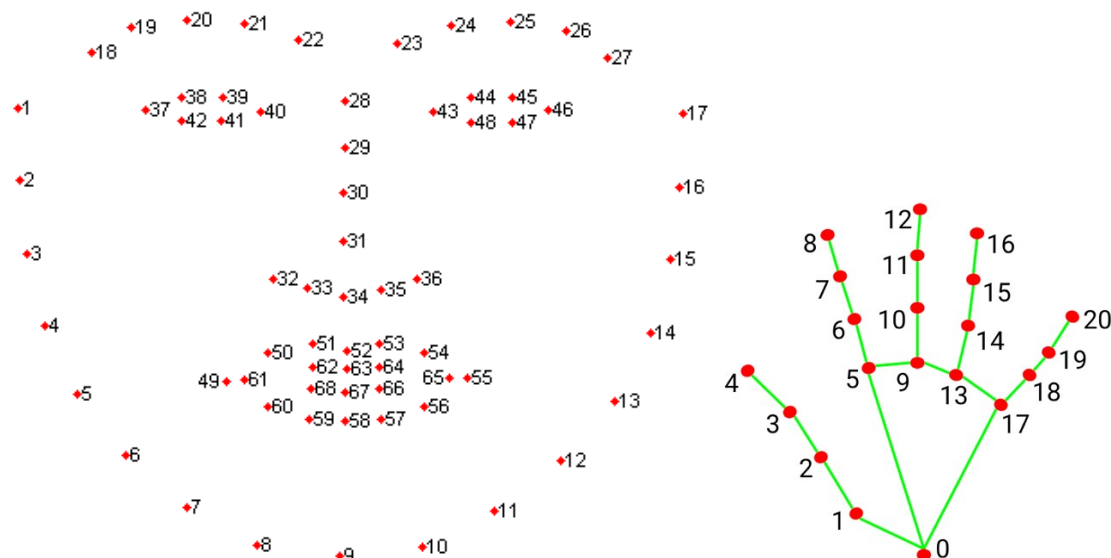

Face: the number of landmarks to be submitted are the following. <u>Note that the indices of the landmarks start at 1.</u>

- **Eyebrows (2x5)**: 18-22 and 23-27.
- **Right eye (3)**: 37, 40, and (38, 39, 41 and 42) are averaged to get the pupil landmark. Three landmarks in total.
- **Left eye (3)**: 43, 46, and (44, 45, 47 and 48) are averaged to get the pupil landmark. Three landmarks in total.
- **Mouth (12)**: landmarks are reduced to the upper and lower lips. For the upper lip, the pairs of landmarks (50, 61), (51, 62), (52, 63), (53, 64), (54, 65) are averaged. For the lower lip, same procedure is applied to the pairs of landmarks (60, 61), (59, 68), (58, 67), (57, 66), (56, 65). Landmarks 49 and 55 are also included.

Body: only joints with indices [9, 12, 13, 14, 16, 17, 18, 19, 20, 21] need to be submitted. They correspond to middle chest, neck, left chest, right chest, left shoulder, right shoulder, left elbow, right elbow, left wrist and right wrist, respectively.

Hand (same for left and right): 4 landmarks are considered for each finger (see figure above, landmarks from 1 to 20). Landmark 0 (palm) is omitted due to noise.

Find below a visual representation of all the landmarks considered for evaluation:
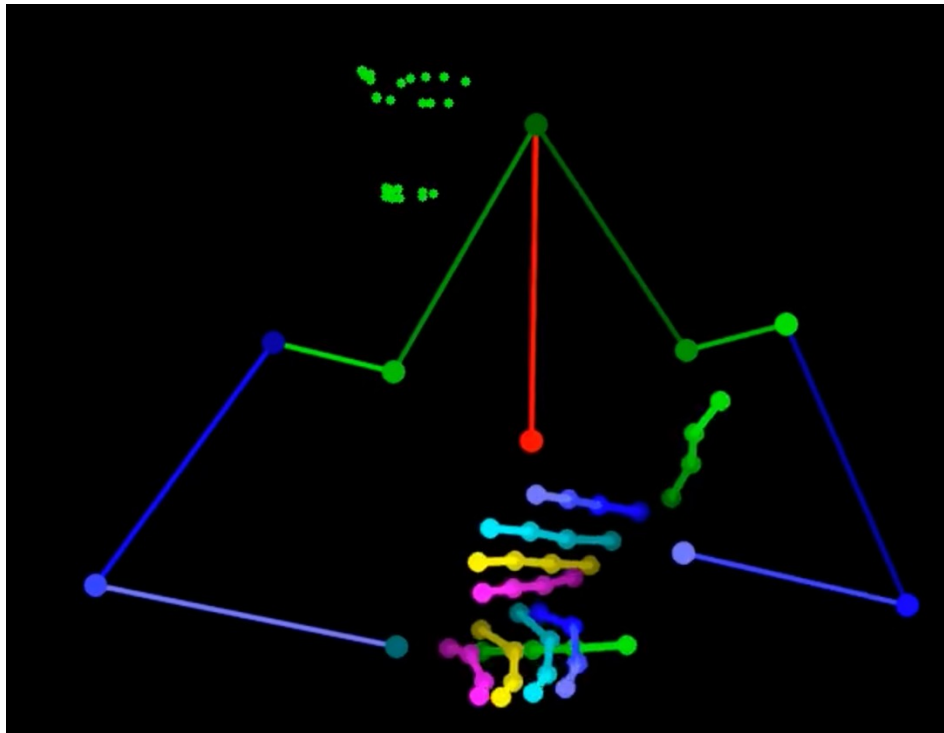
The submission file has to be a *json* file with one entry per session. Inside each session, one entry per task (FC1_T and FC2_T). Inside each task, an entry per each predicted frame should be included, where the keys "face", "left_hand", "right_hand" and "body" keys should contain the arrays corresponding to the landmarks for each of those parts of the body. Then, the submission json should be accessed as:

submission_json[session][task][frame_key][body_part]

You will find an example of submission file generation in the function "generate_baseline" inside the "utils.py" file from the starting kit provided. The session, tasks and frames to predict will be provided as a ".csv" file in the challenge webpage.

Note: if your solution does not include a given landmark, the submission file should have a 0 in the position for that specific landmark. The evaluator also accepts a -1 as value for a body part instead of an array with the landmarks. This is intended for those cases where no prediction is done for a specific body part (e.g., when a hand is not visible). However, these cases will not be considered in the metric computation, so you can always provide an array.