

# MGR-Dark: A Large Multimodal Video Dataset and RGB-IR benchmark for Gesture Recognition in Darkness

Anonymous Authors

## 1 OVERVIEW

In this supplementary material, we present more details about MGR-Dark. The gesture actions and how they were performed are presented in Sec. 2. The diverse collection scenes are introduced in Sec. 3. In Sec. 4, we provide an ethics statement.

## 2 GESTURE ACTION

The MGR-Dark dataset includes a total of 10 gesture classes. The list of gesture classes can be categorized into forward, backward, stop, keep down, turn left, turn right, upward, look for and quiet.

- 1) **Forward:** raise the right arm upward, draw a 45° angle forward and downward, with the palm facing down(Fig. 1);
- 2) **Backward:** raise the right arm vertically and make a fist(Fig. 2);
- 3) **Stop:** cross the arms above head(Fig. 3);
- 4) **Keep Down:** stretch the right arm to the right, palm down, and swing the hand up and down(Fig. 4);
- 5) **Turn Left:** place the right arm horizontally on the waist, fold it back to the left, and extend the five fingers of the palm(Fig. 5);
- 6) **Turn Right:** place the right arm horizontally on the waist, extend to the right, and extend the five fingers of the palm(Fig. 6);
- 7) **Upward:** raise the right arm and extend two fingers(Fig. 7);

8) **Dangerous:** place the hands above the ears on both sides(Fig. 8);

9) **Look For:** clasp the fingers tightly and place the palm horizontally on the forehead(Fig. 9);

10) **Quiet:** Make a fist gesture, raise the index finger and place it vertically on the lips(Fig. 10).

## 3 SCENES

To ensure the dataset's generalizability, we conducted collection in over 25 different scenarios. We collected the clips in 9 outdoor scenes and more than 17 indoor scenes, such as carpark, corridors and groves for outdoor scenes, and halls, stairs and laboratories for indoor scenes, as shown in Fig. 11. Some of the scene images displayed below may involve the exposure of personal privacy information. We have applied mosaic processing to these images, but the original data remains preserved in the dataset.

## 4 ETHICS STATEMENT

The data is only allowed for academic research and we will provide strict access for applicants who sign data use agreements. The subjects were informed of the uses of the data and signed informed consent. The data is only allowed for academic research and we will provide strict access for applicants who sign data use agreements.



Figure 1: Forward



Figure 2: Backward



Figure 3: Stop



Figure 4: Keep Down



Figure 5: Turn Left



Figure 6: Turn Right



Figure 7: Upward



Figure 8: Dangerous





Figure 9: Look For



Figure 10: Quiet



Figure 11: Example scene in MGR-Dark dataset.