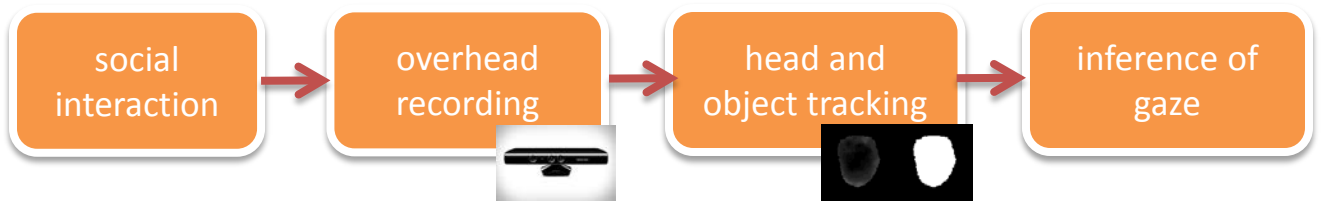


Human assisted head pose tracking for inferring child gaze in social interactions

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Motivation

- Gaze direction is an important part of social interaction.
- Identifying targets of gaze in a 3d environment is challenging.
- Can we use head orientation to infer gaze?

Approach

- Recorded with commercially available \$200 sensor.
- Track child head orientation and objects in the scene.
- Human assisted tracking using blobs and template matching.

Results

- We can visualize interactions, like in figure 1.
- We can infer targets of gaze as in figure 2.
- We are investigating further uses of the tracking information.

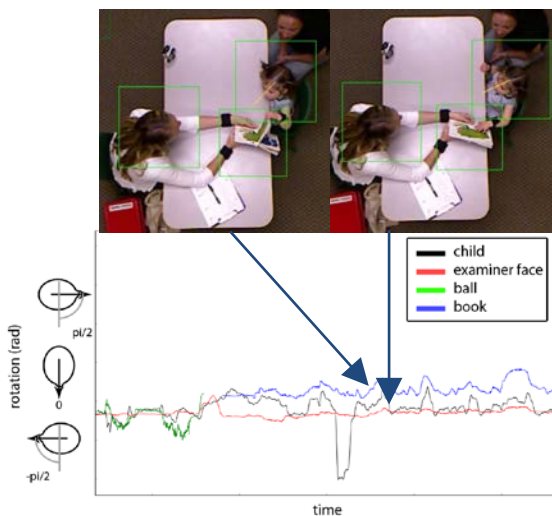


Figure 1: Above – the recording of the interaction, with tracking outputs. Below – a visualization of head orientation behavior. We can see joint attention shifts on the right.

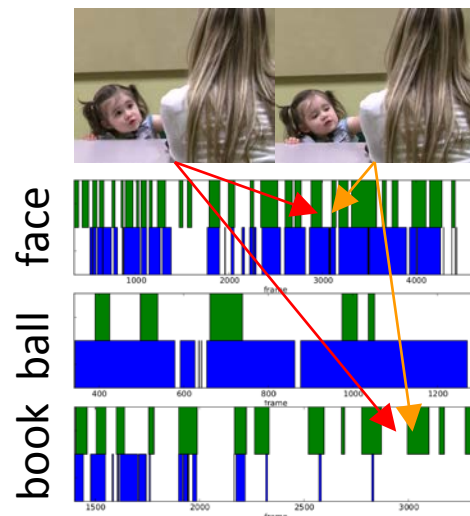


Figure 2: Above – point of view of the human annotator of gaze. Below – the green bars are frames in which the human annotator found gaze to the object. Head orientations towards objects are in blue.

