

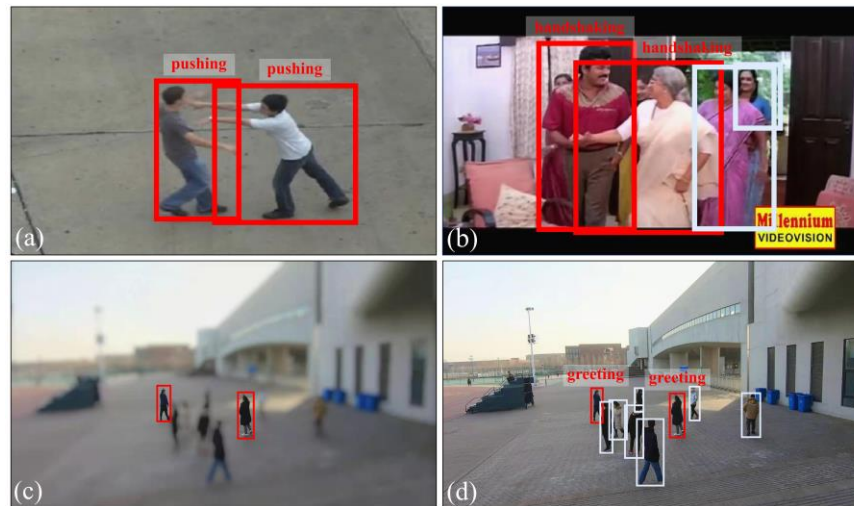
Contactless Interaction Recognition and Interactor Detection in Multi- Person Scenes

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Problems & Ideas

- Extend the current HHI (Human-Human Interaction) research to more practical multi-person scene:
 - interactive subjects are contactless;
 - other subjects not involved in the interactions of interest are also present in the scene.
- Ideas: An Interactive Relation Embedding Network (IRE-Net) to simultaneously identify the subjects involved in the interaction and recognize their interaction category.



An illustration of different interactive activities. (a) 'Pushing' in UT interaction dataset and (b) 'Shaking' in AVA dataset. (c-d) Contactless interactive activities in the multi-person scene that are studied in this paper, where red bounding boxes indicate the interactive subjects.

Main Contributions

- Contributions:
 - This is the first work to study the problem of contactless human interaction recognition in the multi-person scenes.
 - We develop a new IRE-Net for the proposed problem, which can be used to identify the interactor and recognize their interaction category.
 - We build a new dataset and define new metrics for performance evaluation. We will release the videos, annotations, and evaluation toolkit to the public.

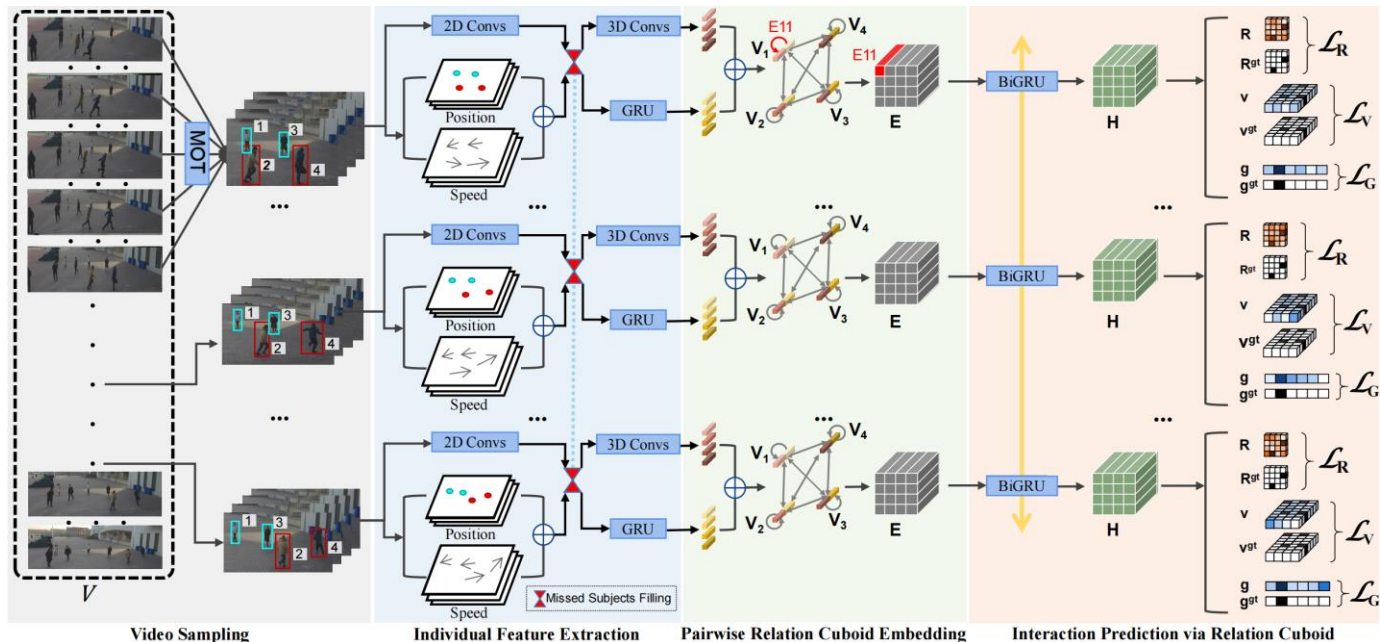


Illustration of the proposed method for contactless interactive subject identification and interaction recognition.