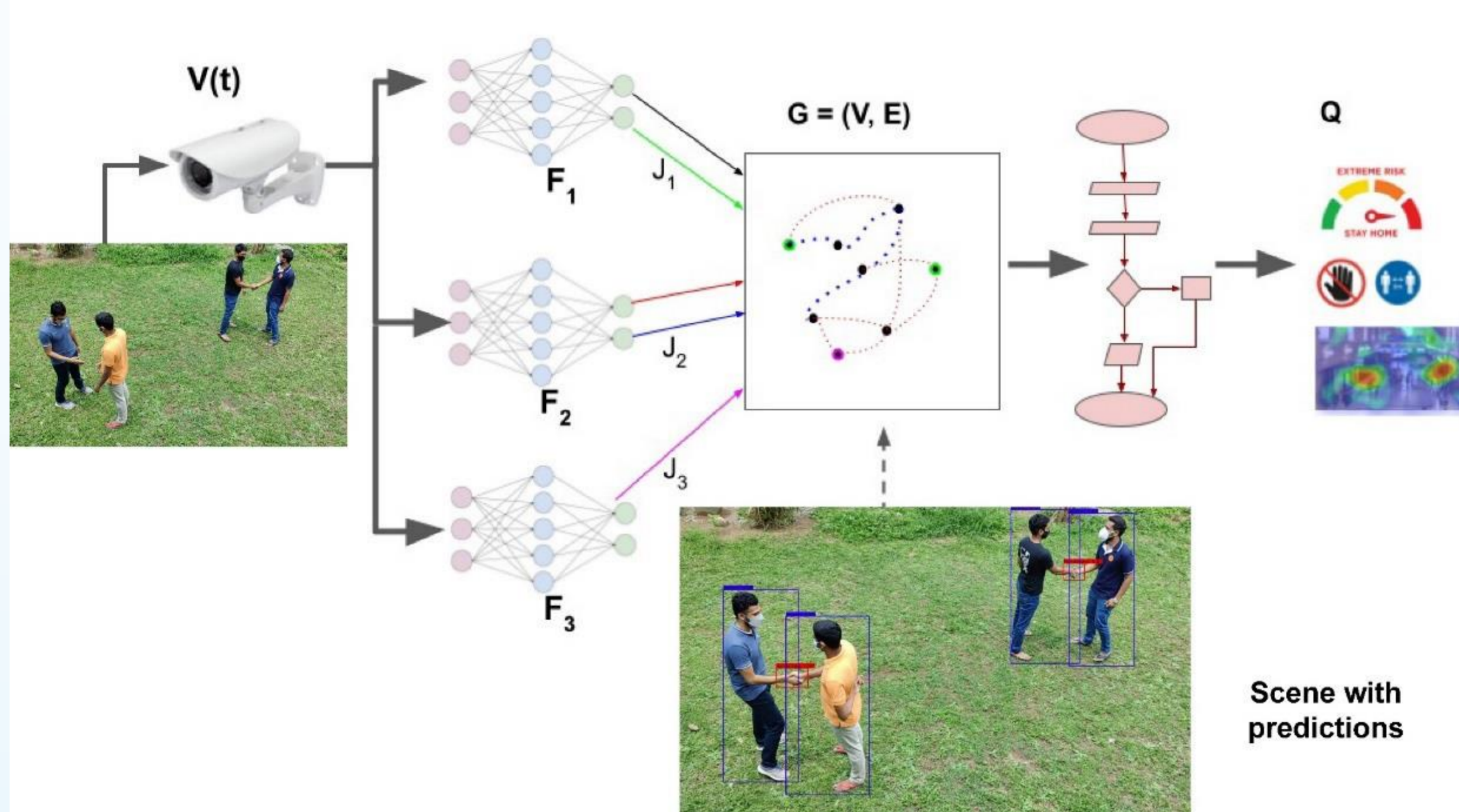




# Computer Vision for Action and Scene Recognition

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**Abstract-** Computer Vision for Action and Scene Recognition involves using AI to interpret visual inputs, leveraging machine learning and deep learning techniques. Applications include surveillance, autonomous driving, human-computer interaction, and sports analytics. Challenges include complex backgrounds, lighting variations, occlusions, and dynamic actions. Advancements in convolutional neural networks (CNNs) and recurrent neural networks (RNNs) have significantly improved the accuracy and efficiency of these recognition systems.

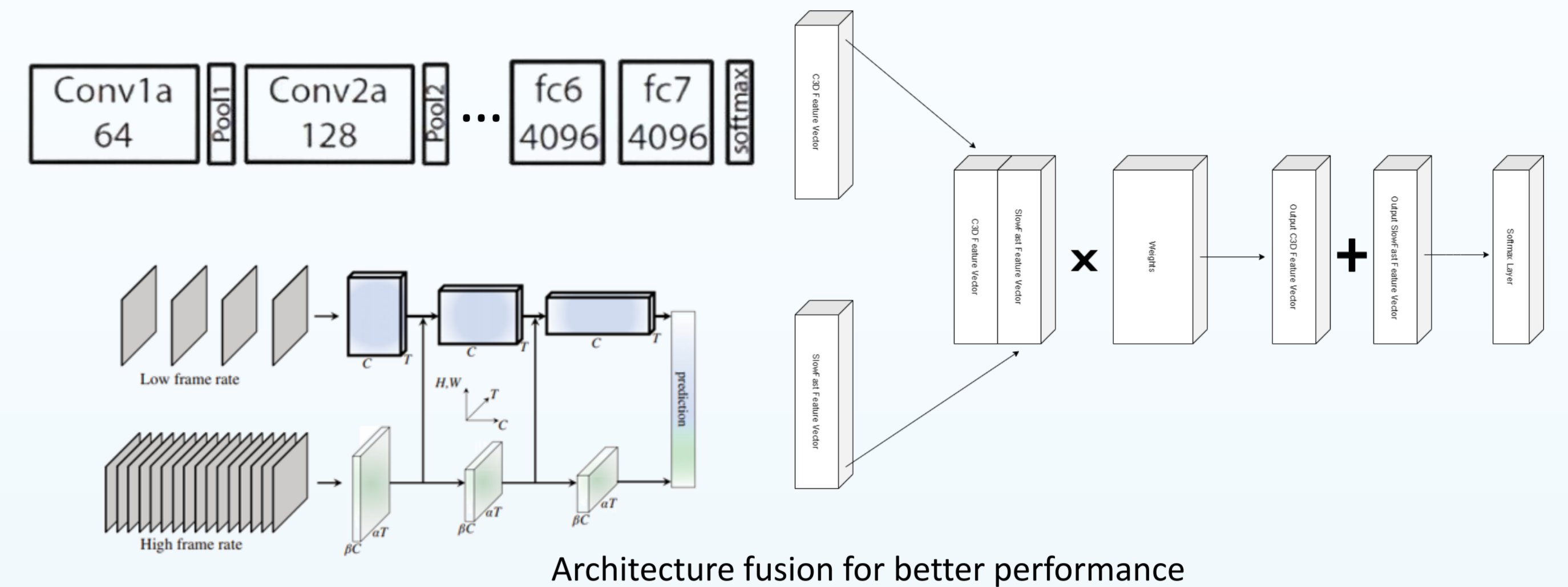


Output snapshots of surveillance footages passed through the holistic system detects dyadic interactions and quantifies a threat level for each frame



Preceding frame of a handshake scene

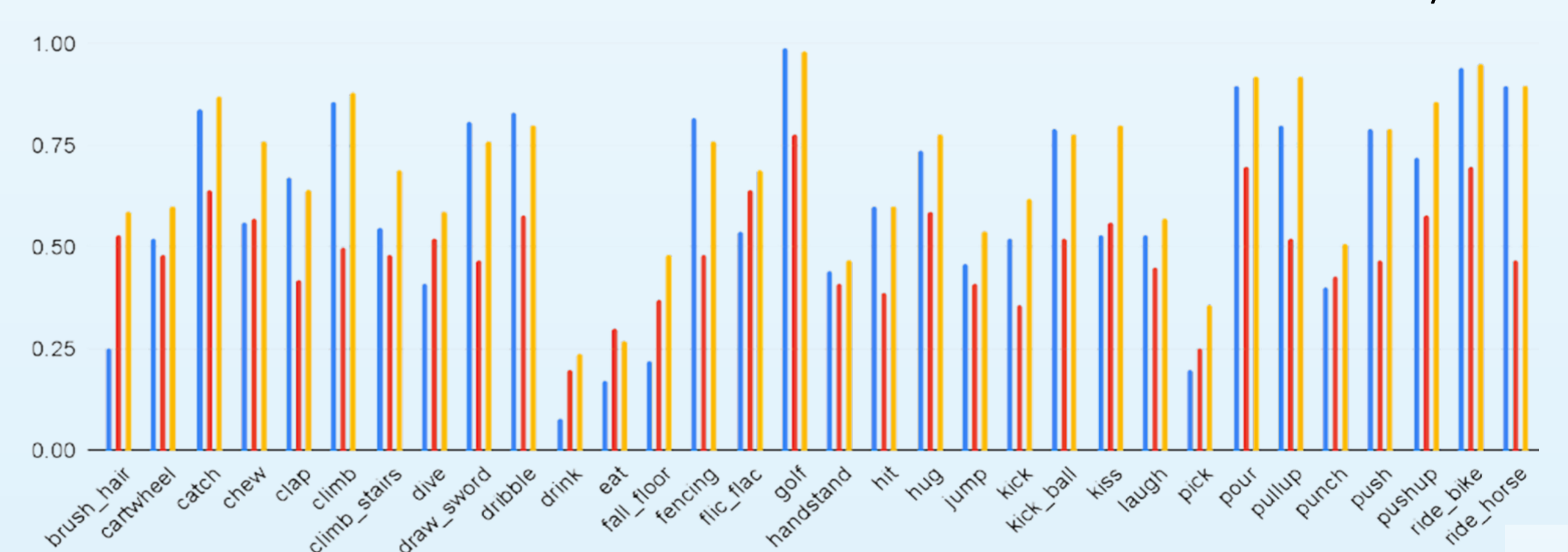
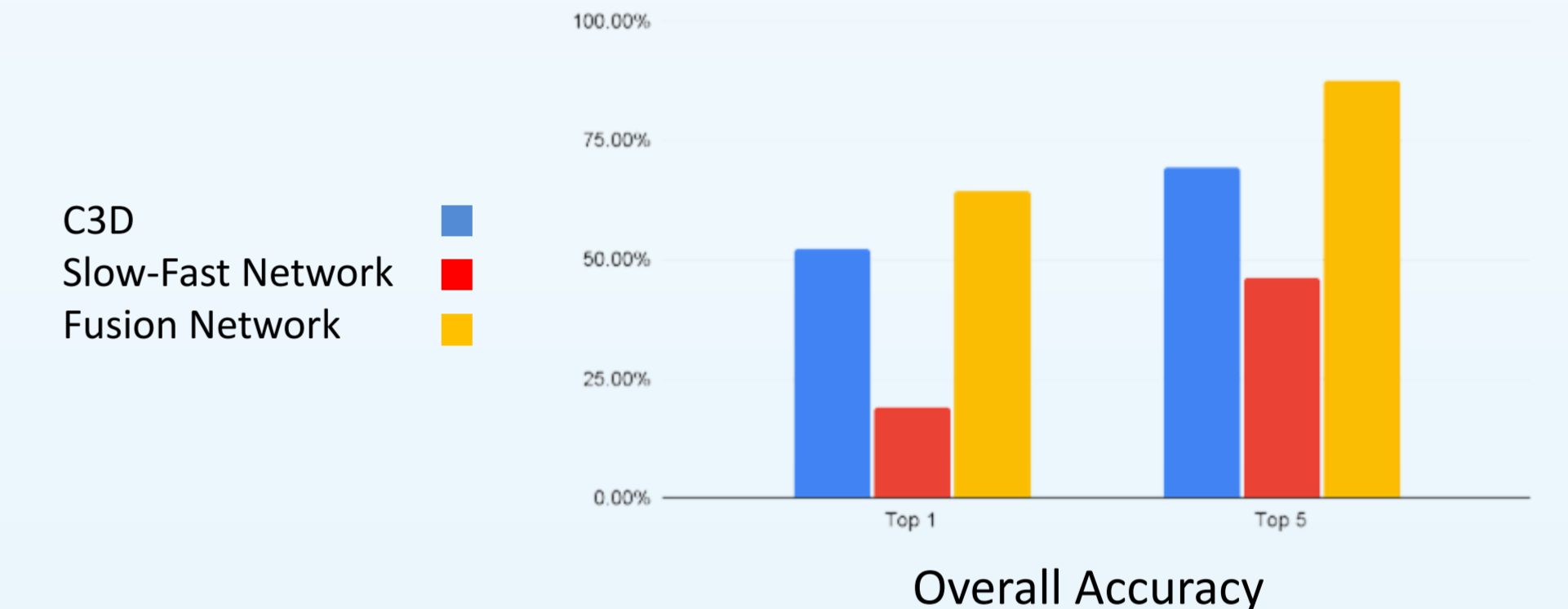
Frame in a handshake scene



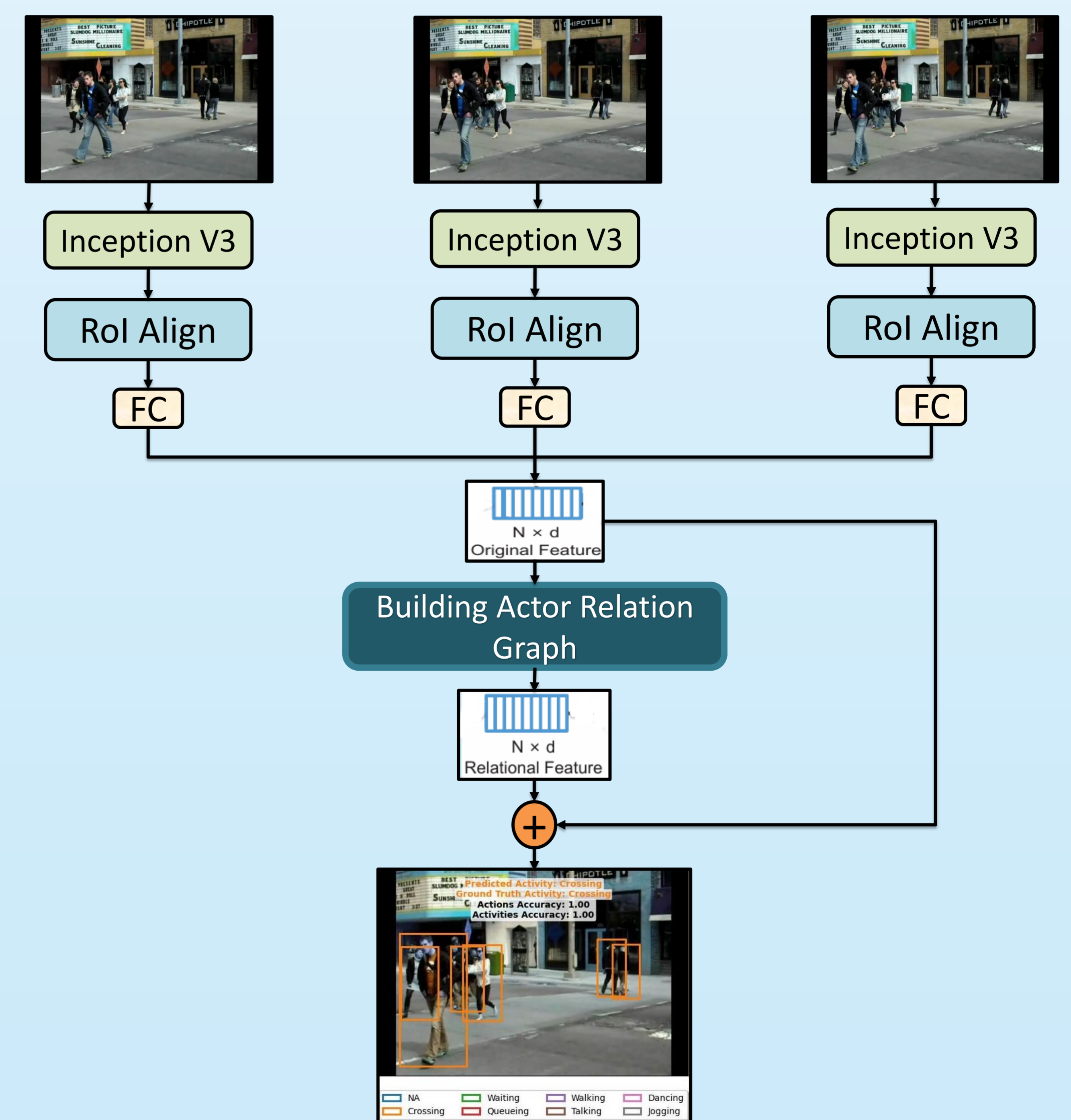
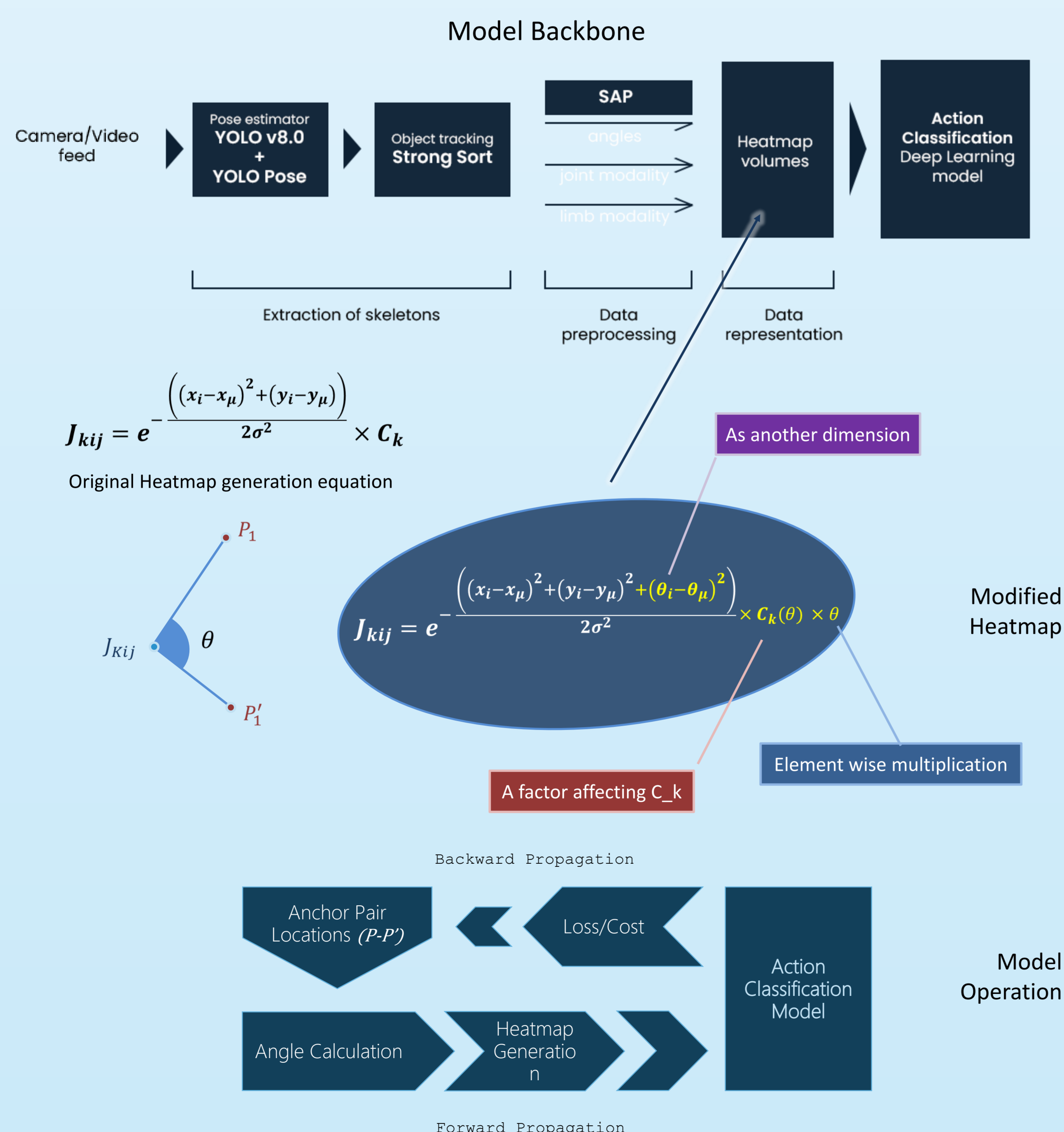
Architecture fusion for better performance



Predicted Action



Class Analysis



Our network framework for group activity recognition extracts actor features from video frames, constructs actor relation graphs, employs Graph Convolutional Networks for reasoning, and fuses features for classification

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