Object tracking

Motion analysis

Tracking

Estimation of the trajectory of the object in the scene

Object tracking (human, animal, vehicle etc.)
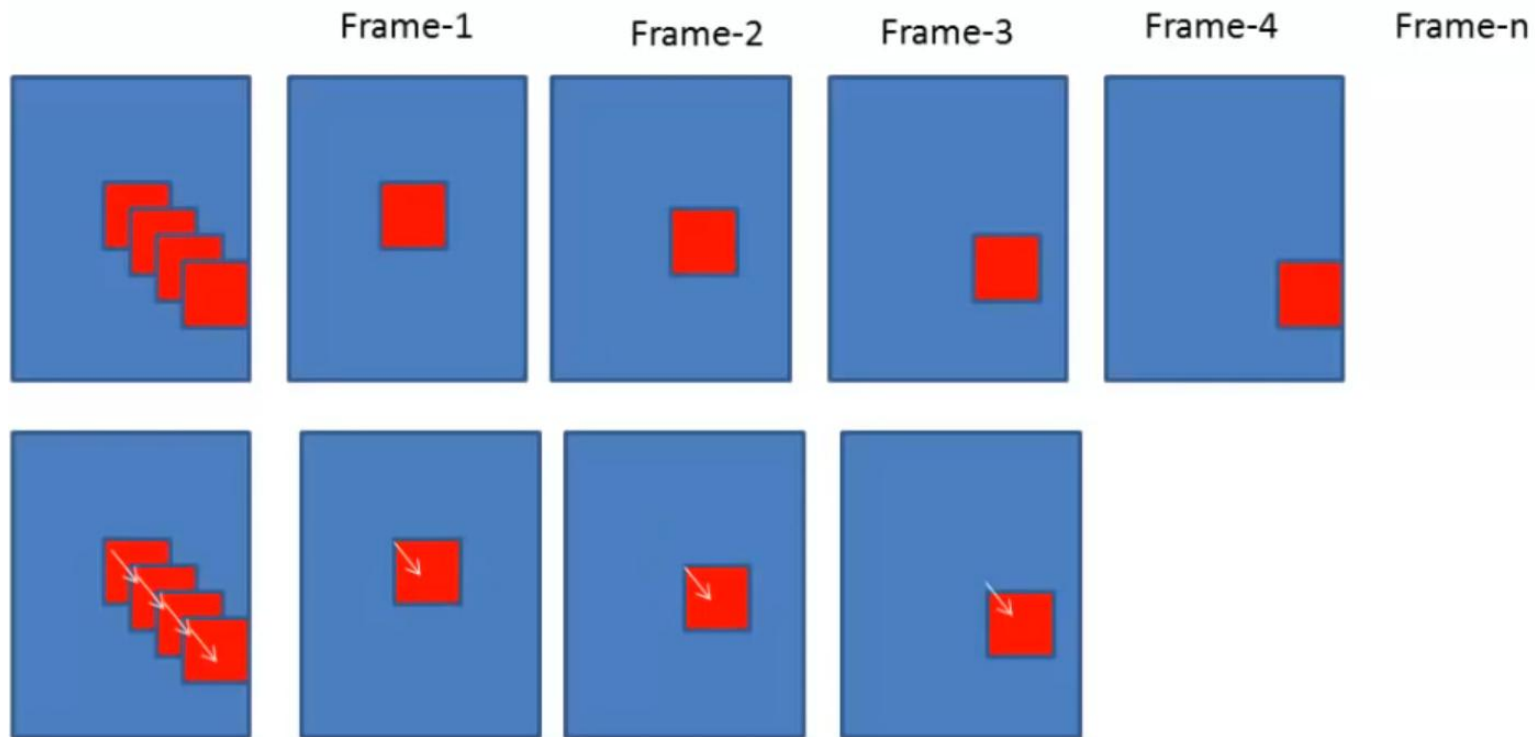
Feature tracking (Harris corners)

Single object tracking

Multiple object tracking

Tracking in fixed camera

Tracking in moving camera

Tracking in multiple cameras

KLT (Kanade-Lucas-Tomasi) tracker

Basic KLT algo

1. Detect interest points in first frame (Harris corners or SIFT etc.)

2. For each interest point, compute motion between consecutive frames

3. Link motion vectors in successive frames to get a track of each interest point

4. Introduce new interest points at every m (10 or 15) frames

5. Track new and old interest points using step 1-3

Results
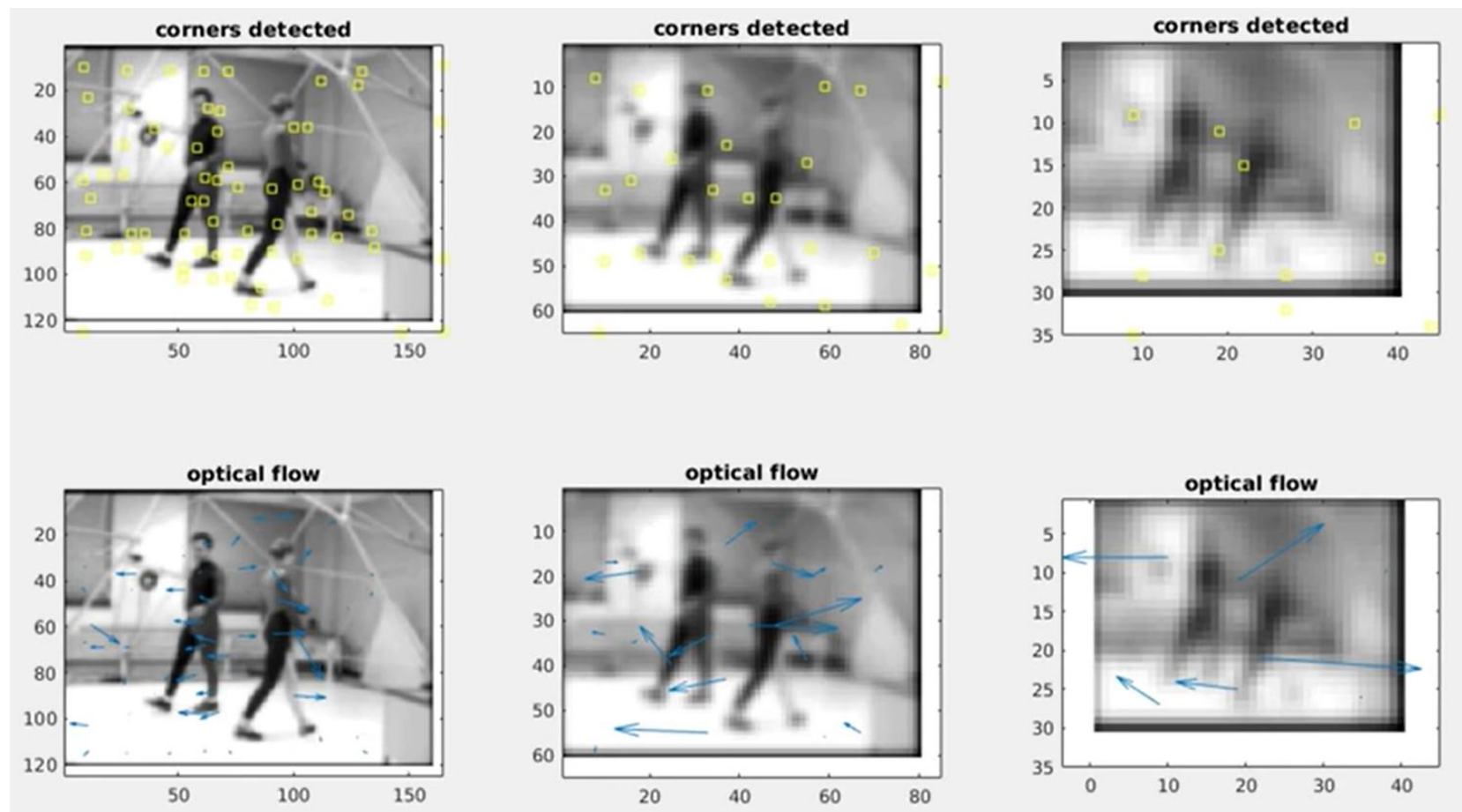
Challenges

Rapid movement of the objects across frames (Use Pyramids)

Change in object orientation

Change in illumination

Interfering background

Complex features tracking (facial expression)