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OpenCV 4.13.0-dev
Open Source Computer Vision

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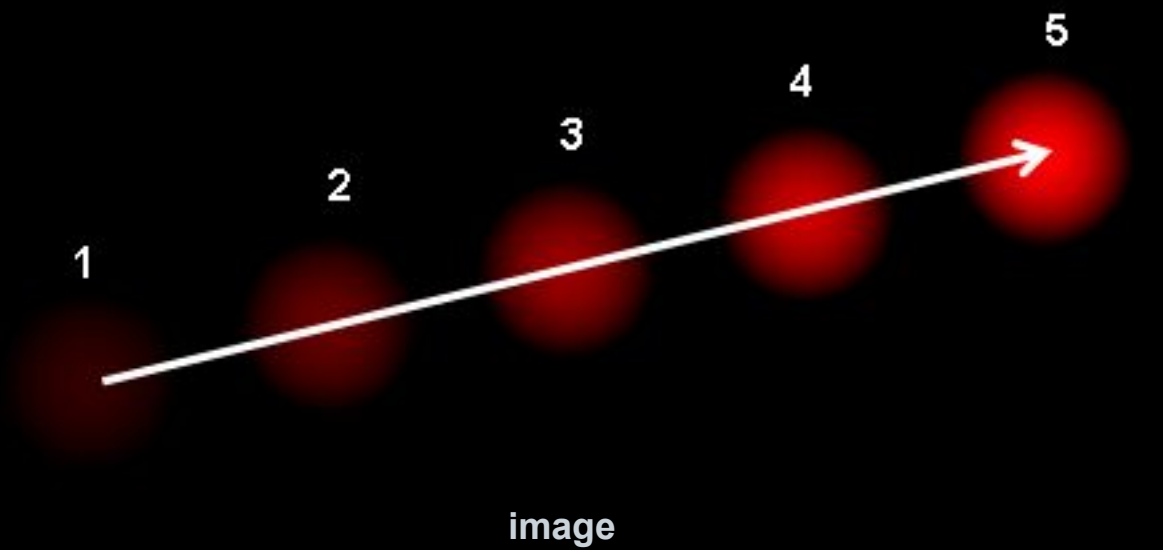
Optical Flow

Goal

In this chapter,

- We will understand the concepts of optical flow and its estimation using Lucas-Kanade method.
- We will use functions like **cv.calcOpticalFlowPyrLK()** to track feature points in a video.
- We will create a dense optical flow field using the **cv.calcOpticalFlowFarneback()** method.

Optical Flow

Optical flow is the pattern of apparent motion of image objects between two consecutive frames caused by the movement of object or camera. It is 2D vector field where each vector is a displacement vector showing the movement of points from first frame to second. Consider the image below (Image Courtesy: Wikipedia article on Optical Flow).

image

It shows a ball moving in 5 consecutive frames. The arrow shows its displacement vector. Optical flow has many applications in areas like :

- Structure from Motion
- Video Compression