Central moments of area

- moments of area relative to the centroid of the blob
- used if we change the location of the blob
- $M_{\alpha\beta} = \sum_{image} (x-\bar{x})^{\alpha} (y-\bar{y})^{\beta} f(x,y)$ where $\bar{x} = \frac{M_{10}}{M_{00}}$; $\bar{y} = \frac{M_{01}}{M_{00}}$
- calculate orientation of the blob using M_{20} and M_{02}

Colour distribution

- used to describe a blob and keep track of these blobs
- useful characteristic of blobs because it is independent of area or orientation

Problems:

- when the brightness changes

Solution:

1. normalise the brightness (break down the image in parts with same brightness)
2. only record HS from HSV, as V corresponds to brightness

Blob tracking

- finding the blobs in the second image that match blobs in the first image
- How? => look for invariant properties (e.g. colour distribution, shape properties)
  - ↓ don't change from one frame to another

- Predictive tracking

"for every blob we are tracking, maintain its current location, its current velocity (how fast is moving and in what direction) and the invariants