Motion
Imaging Configurations

• Moving camera moving objects
• Moving camera stationary objects
• Stationary camera moving objects
• Stationary camera stationary objects
Motion Detection
Motion Recognition (shape)
Structure from motion (derive 3-D motion)
Tracking
Motion Measurement (optical flow)
Motion Detection

Motion
A Video Clip
Consecutive Frame Difference
Optical Flow

Measurement of motion at each pixel
Synthetic Images
Results

One iteration

10 iterations
Image from Hamburg Taxi seq
Lucas-Kanade with Pyramids

Optical Flow
Video Mosaics
Video Mosaic
Head-mounted Camera at Restaurant
Video Compression
Example of Forward Motion Estimation
Sprite
Tracking
Tracking & Object Detection In Single Camera

PETS-2001

Single Camera

Tracking & Object Detection In
Motion Recognition
Detecting Violence
Video Registration
Registered IRS-1C to SPOT
Results and Conclusions

Results superimposed with the reference image.
Video Segmentation
Augmented Reality
Understanding Hollywood Movies
Explosion/fire Detection