
Motion Computing in Image Analysis

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Roadmap

- ✓ **Optic Flow Constraint**
- ✓ **Optic Flow Computation**
 - ✓ Gradient Based Approach
 - ✓ Feature Based Approach
- ✓ **Estimation Criterion**
- ✓ **Block Matching algorithms**
- ✓ **Conclusion**

Importance of Visual Motion

- ✓ Apparent motion of objects on the image plane is a strong cue to understand structure and 3D motion
- ✓ Biological visual systems infer properties of the 3D world via motion
- ✓ Two sub-problems of motion
 - ✓ Problem of correspondence estimation
 - ✓ Which elements of a frame correspond to which elements of the next frame
 - ✓ Problem of reconstruction
 - ✓ Given the correspondence and the camera's intrinsic parameters can we infer 3D motion and/or structure