Project Presentation – Week 6

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Recap – What I’m doing

- ‘Structure from Motion’ (SfM)
  - Recovery of pixel depth by viewing that point from different locations
- Typical applications:
  - 3D reconstruction
- Exploring new uses?
  - Detecting occlusion of environment, etc
Where was I?

WEEK 4 MEETING

- Feature point detection
- Matching of features across different frames

DURING CVPR

- Robust estimation of Fundamental Matrix (F) using RANSAC
The F-Matrix
Can triangulate to ‘Projective’ accuracy
Can “upgrade” the ‘projective’ reconstruction to an ‘affine’ reconstruction
What we expect: projecting 3D points to image matches original feature point locations (correct for 1st view)
Affine Reconstruction?

- What’s wrong: Doing the same thing for the 2\textsuperscript{nd} view does not yield correct locations. Incorrect by an affine transformation.
Goal for next week

- Complete ‘Metric’ reconstruction
- Port code out of Matlab for real-time demonstration