

Computer Vision III – Structure from Motion: Entry survey

- Can you think of a way to apply the 3D vision alignment algorithms from last class for extracting structure from motion (SfM)?

Answer: Stereo vision is a special case for SfM with only two images. With more images, it can be generalized to SfM.

- What would be a good application area for SfM?

Answer: Terrain mapping, facade reconstruction, 3D model reconstruction of objects/actors for movies/video games, robot vision, camera tracking, combat target tracking, converting 2D movies to 3D.

Exit survey

- What additional piece of information an SfM algorithm needs when the objects in the scene also moves?

Answer: SfM can be used to figure out an object's movement, but it would need to at least know a model of the object's movement (e.g., movement of human body joints). Frames from same cameras can also help discern the objects's movement.

- What parameters an SfM algorithm cannot recover?

Answer: Absolute location, angle, and size. Also, occluded areas and moving objects.