Literature review:

*Literature search strategy:*

* Research 3D reconstruction techniques, in particular - MVS and SfM. SfS is also of interest.
* Research traditional IBR / video interpolation techniques – as this are combined with deep-learning
* Research deep-learning architectures, in particular – convolutional networks architectures
* Research data and data formats
* Research specific to video interpolation using deep-learning – study in detail articles that have done similar research

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Previous dissertations can be found at- <https://www.scss.tcd.ie/publications/theses/diss/>

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MVS (Multi-view stereo)

SfM (Structure from motion)

- Structure from Motion

- Multi-View Stereo

- Poisson Surface Reconstruction

The 3D reconstruction technology based on multi-view is composed of techniques, such as

* feature point extraction and matching
* camera calibration
* sparse point cloud reconstruction
* dense point cloud reconstruction
* Poisson surface reconstruction
* texture mapping

Tomasi C, Kanade T. Kanade, T.: Shape and motion from image streams under orthography: A factorization method. Int. J. Comput. Vis.9(2), 137-154[J]. International Journal of Computer Vision, 1992, 9(2):137-154.

Marc PollefeysPollefeys M. Self-calibration and metric 3d reconstruction from uncalibrated image sequences[J]. Thesis K.u.leuven Departement Esat Afdeling Psi.phd.thesis, 1999.

Orthography – orthographic projection

An image stream can be represented by the 2F×P measurement matrix of the image coordinates of P points tracked through F frames. We show that under orthographic projection this matrix is of rank 3. [Tomasi and Kanade ]. singular-value decomposition technique to factor the measurement matrix into two matrices which represent object shape and camera rotation respectively

3D reconstruction begins with feature point extraction and matching (Suppose that we have tracked P feature points over F frames in an image stream. [T&K])