## 4D Optical Flow Estimation

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4D Optical Flow aims to estimate the motion between two 3D volumetric datasets captured over time. This process involves calculating the displacement of each voxel in a 3D space from one time frame to the next. Although traditional 2D optical flow estimates motion between two 2D images, 4D optical flow extends this concept to include three spatial dimensions (X, Y, Z) as well as the temporal dimension (T).