# Homework 6

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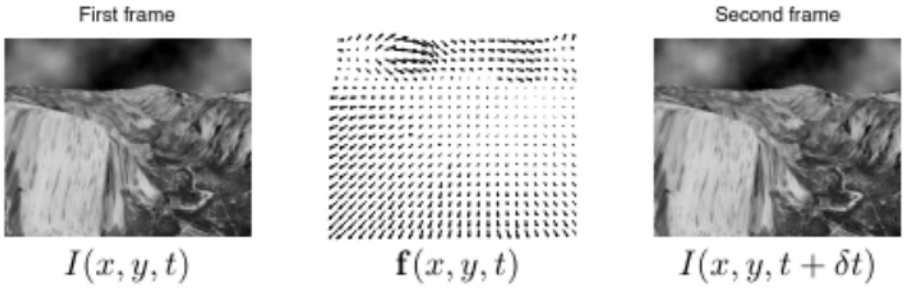
## (1) Project Checkpoint

**(a)** Andy Wang, Luka Orquiza

**(b)** Spatial Gaussian Process Regression for Probabilistic Optical Flow Estimation

**(c)** We'll be using the MPI-Sintel Dataset, a dataset containing 23 naturalistic video sequences and ground truth optical flow fields.

**(d)** We'll use pairs of images to estimte optical flow vector fields, which represent the motion of objects in between the two frames:




**(e)** We'll use a spatial Gaussian process as our flow-function prior, meaning every finite subset of flow vectors follows a joint Gaussian distribution. This is to encourage smooth estimates. We'll also assume our observed flows are Gaussian, with mean equal to at prior flow (evaluated), and homoskedastic noise, since there is no reason to assume (by default) brightness changes, low contrast, occlusions, apertures (all things that would add noise to optical flow estimates) would affect different image regions differently.