Introduction

* The core task of a stereo algorithm is computing the correspondence of each pixel between two images.
* Current state-of-art stereo algorithms often have difficulty with textureless areas, reflective surface,thin structures and repetitive areas.
* We observe that a number of these challenge problems for stereo algorithms would benefit from knowledge of global context, rather than relying solely on local geometry.
* The main contribution of this paper is an end-to-end deep learning method to estimate per-pixel disparity from a single rectified image pair.
* We learn to incorporate context directly form the data
* We use a soft argmin function, which is differentiable, and allows us to regress sub-pixel disparity values from the disparity cost volume.

Related work