

Reconstructing Animals

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3D reconstruction is a classic problem in computer vision, but the reconstruction of living things presents special opportunities and challenges. On the one hand, living creatures within a species have strong similarities. These presents us with the opportunity to assist reconstruction with strong priors on their shape and photometric properties. On the other hand, it can be difficult to build these priors; reflectance properties are difficult to measure and shape can be hard to measure in living creatures. I will survey a series of works from our group that addresses this problem with a number of strategies. We demonstrate these strategies by building systems that reconstruct human faces and bodies, and animal bodies from a single test image.