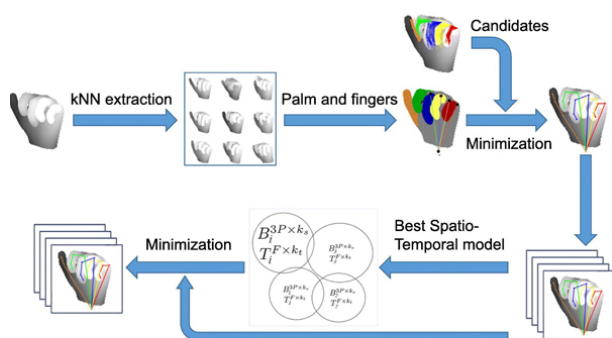


Top-down model fitting for hand pose recovery in sequences of depth images

Madadi, Meysam; Escalera, Sergio; Carruesco, Alex; Andujar, Carlos; Baro, Xavier; Gonzalez, Jordi



State-of-the-art approaches on hand pose estimation from depth images have reported promising results under quite controlled considerations. In this paper we propose a two-step pipeline for recovering the hand pose from a sequence of depth images. The pipeline has been designed to deal with images taken from any viewpoint and exhibiting a high degree of finger occlusion. In a first step we initialize the hand pose using a part-based model, fitting a set of hand components in the depth images. In a second step we consider temporal data and estimate the parameters of a trained bilinear model consisting of shape and trajectory bases.

We evaluate our approach on a new created synthetic hand dataset along with NYU and MSRA real datasets. Results demonstrate that the proposed method outperforms the most recent pose recovering approaches, including those based on CNNs.