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Yoga-82: A New Dataset for Fine-grained Classification of Human Poses

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Human pose estimation is a well-known problem in computer vision to locate joint positions. Existing datasets for the learning of poses are observed to be not challenging enough in terms of pose diversity, object occlusion, and viewpoints. This makes the pose annotation process relatively simple and restricts the application of the models that have been trained on them. To handle more variety in human poses, we propose the concept of fine-grained hierarchical pose classification, in which we formulate the pose estimation as a classification task, and propose a dataset, Yoga-82, for large-scale yoga pose recognition with 82 classes. Yoga-82 consists of complex poses where fine annotations may not be possible. To resolve this, we provide hierarchical labels for yoga poses based on the body configuration of the pose. The dataset contains a three-level hierarchy including body positions, variations in body positions, and the actual pose names. We present the classification accuracy of the state-of-the-art convolutional neural network architectures on Yoga-82. We also present several hierarchical variants of DenseNet in order to utilize the hierarchical labels.

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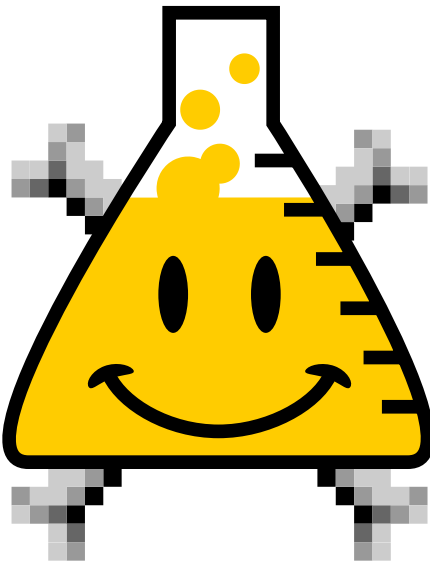**Export BibTeX Citation**

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