

### 图像和视频中基于部件检测器的人体姿态估计

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### Part Detector Based Human Pose Estimation in Images and Videos

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摘要

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**摘要** 人体姿态估计是计算机视觉领域中的一个关键问题,可以应用于人体活动分析,人机交互以及视频监控等方面。该文针对单目图像和视频中的姿态估计问题,基于部件及图推理的方法,对观测模型和推理方法提出改进。该文设计实现了一种旋转不变的边缘力场特征,采用基于边缘力场特征的Boosting分类器作为观测模型,并利用一种基于粒子采样和置信度传播的优化算法进行姿态估计。算法的性能和速度在几个数据集上得到了验证。

**关键词:** 图像处理 人体姿态估计 边缘力场特征 置信度传播

**Abstract:** Human pose estimation is an essential issue in computer vision area since it has many applications such as human activity analysis, human computer interaction and visual surveillance. In this paper, 2D human estimation issue in monocular images and videos is addressed. The observation model and the inference method are improved based on part based graph inference method. A rotation invariant edge field feature is designed and based on which a Boosting classifier is learnt as the observation model. The human pose estimation is done with a particle based belief propagation inference method. Experiments show the effectiveness and the speed of the proposed method.

**Keywords:** Image processing Human pose estimation Edge field feature Belief Propagation (BP)

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