

People Counting with Extended Convolutional Neural Network

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Crowd people counting in crowded scenes is a very challenging task due to various appearance, perspective distortions and severe occlusions. Most of the previous works have a trade-off between accuracy and miss detection. Although they get high performance, they may decrease from complex occlusions. Occlusion handling is one of the important issues and also still exists as an active research area. To tackle this fact, this paper establishes an effective people counting framework that automatically estimates the accurate number of people. Unlike the other, this paper proposes extended Convolutional Neural Network (CNN) by contributing the region localization and segmentation. Firstly, we make the foreground segmentation in the noisy scene by foreground detection and then localize these detected areas. Finally, each localized region put into the CNN framework to handle the correlated size, occlusion and density level. We evaluate the experiments on challenging crowd counting dataset that gets the significant performance than state-of-art results. This present the effectiveness of the proposed framework.