

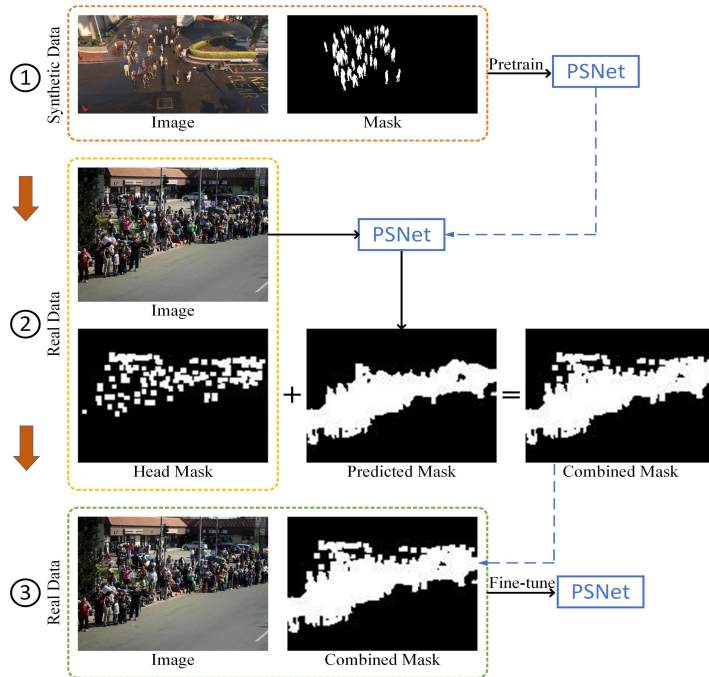
Transferring Priors from Virtual Data for Crowd Counting in Real World

**Xiaoheng Jiang, Hao Liu, Li Zhang, Geyang Li,
Mingliang Xu, Pei Lv, Bing Zhou**

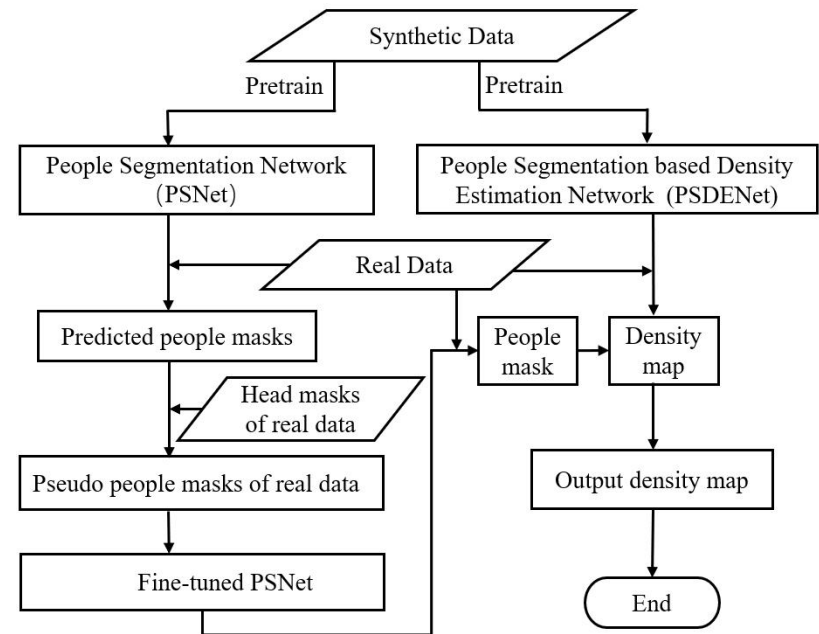
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Problems & Ideas

- Problems of crowd counting in real-world scenes
 - Scarce labelled samples
 - Limited label information (head center position)
- Ideas: Using virtual data and transferring the learned priors to real-world scenes



Learning a people segmentation network using virtual data and real data



Learning a people segmentation based density estimation network

Main Contributions



Ablation study on using pretrained parameters obtained on ImageNet and on our synthetic data.

Pretraining	Part A			Part B		
	MAE	MSE	MRE	MAE	MSE	MRE
ImageNet [35]	68.54	111.48	0.1553	10.74	19.85	0.0852
Synthetic Data	65.22	106.27	0.1542	9.68	17.27	0.0789

Ablation study on the effect of people segmentation mask on density estimation.

	Part A			Part B		
	MAE	MSE	MRE	MAE	MSE	MRE
w/o mask	65.22	106.27	0.1542	9.68	17.27	0.0789
w/ mask	63.35	100.80	0.1516	9.40	17.12	0.0724

People segmentation results when trained on virtual synthetic data (left) and virtual-real combined data (right), right is better.