



Learning Efficient DensePose Network

-- ECCV 2018 Spotlight

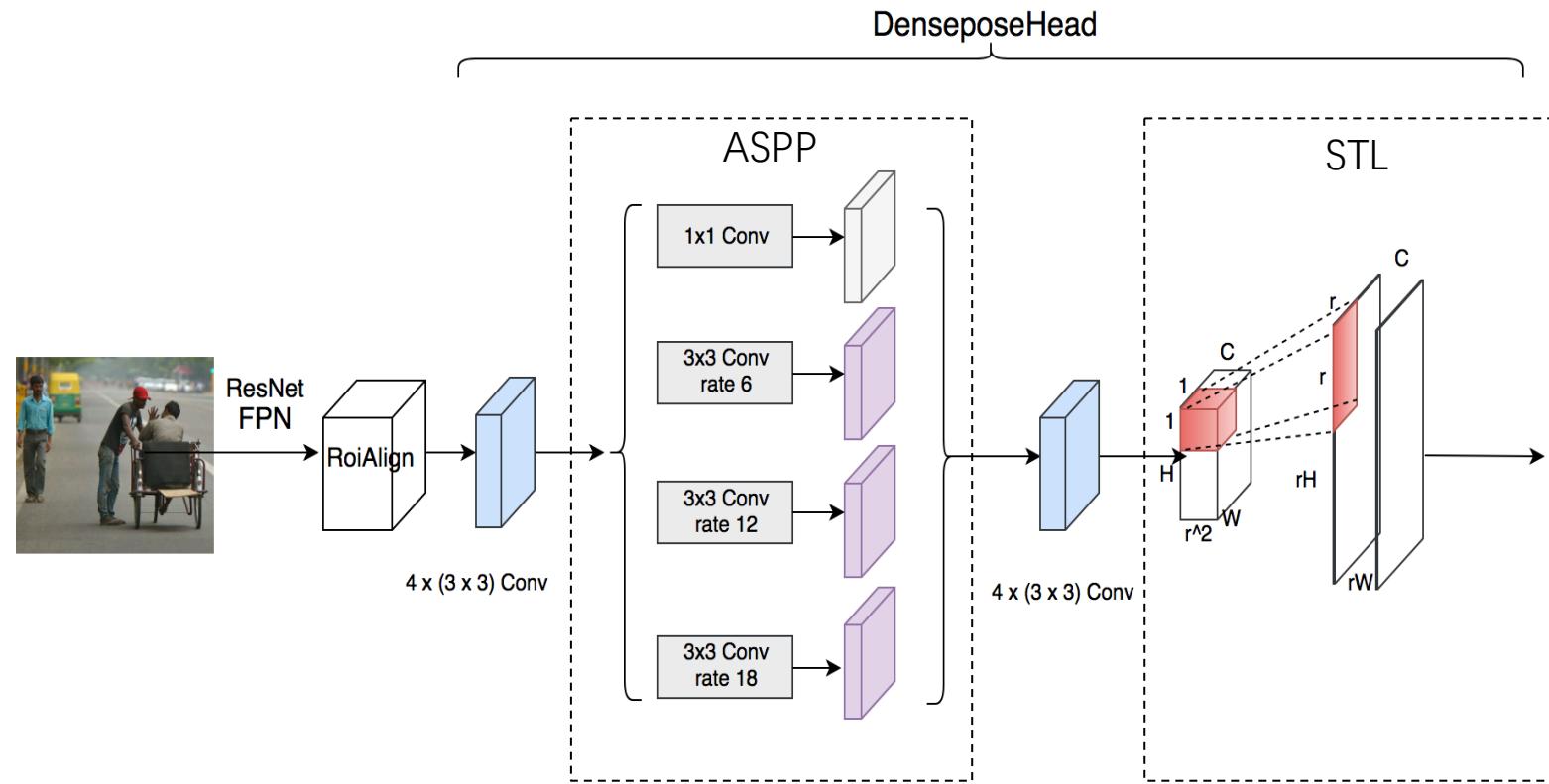
Yuchen Ma, Xinze Chen, Guan Huang

Horizon Robotics

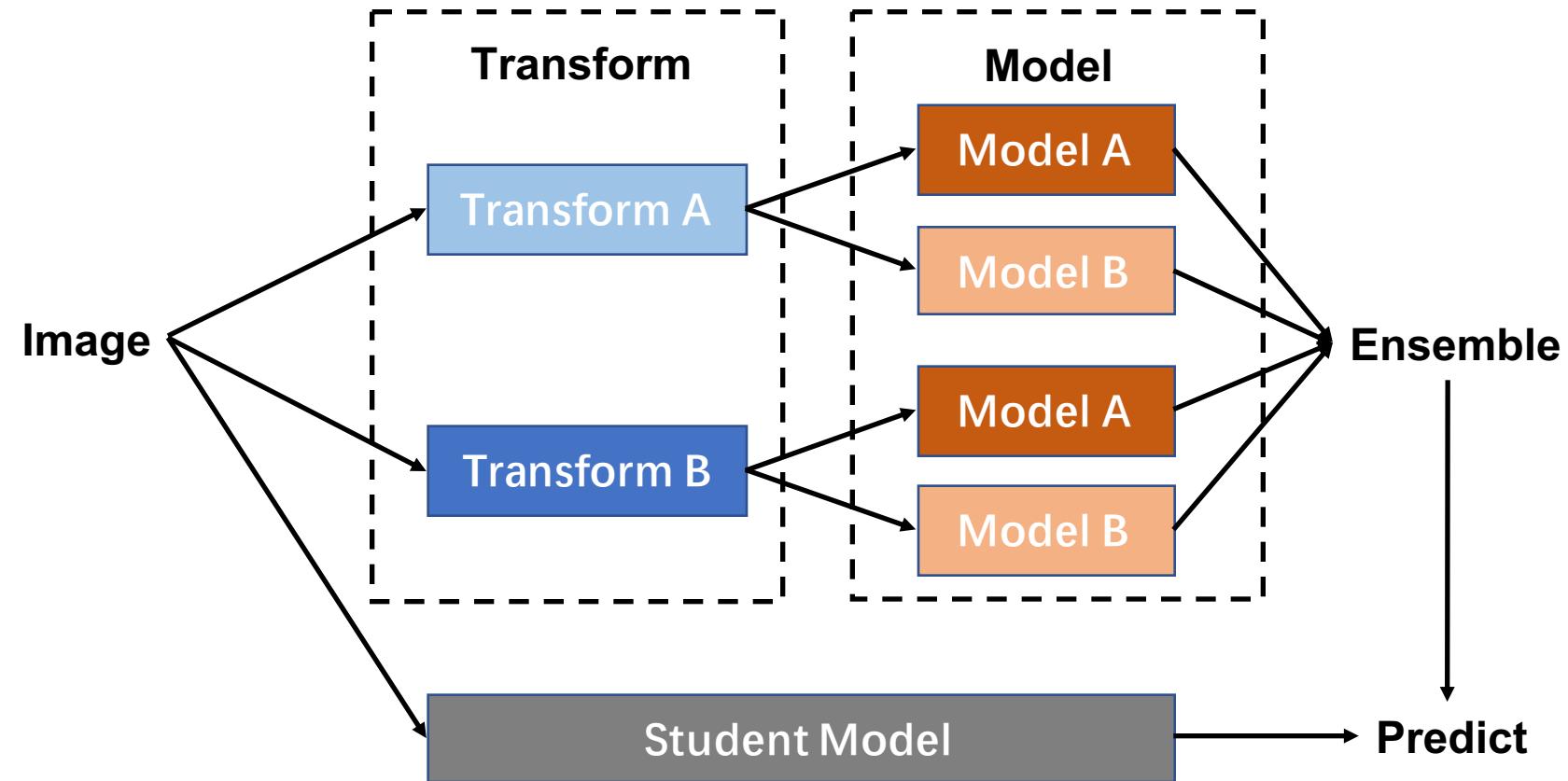


- Data Distillation
- Network Design
- Experiments
- Conclusion

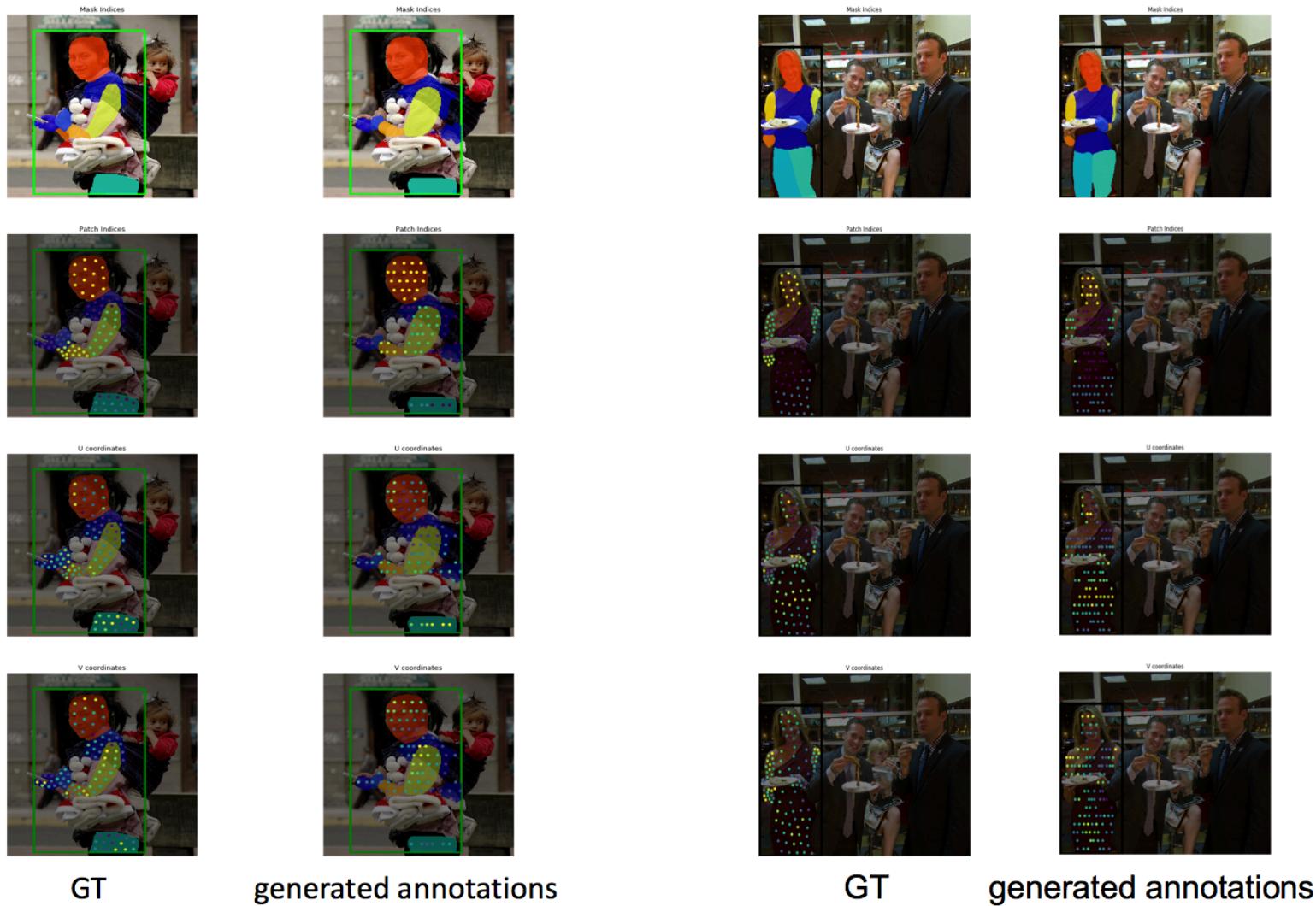
Introduction



- Mask-RCNN architecture
- SeNet-154 provides the best accuracy.
- FPN backbone



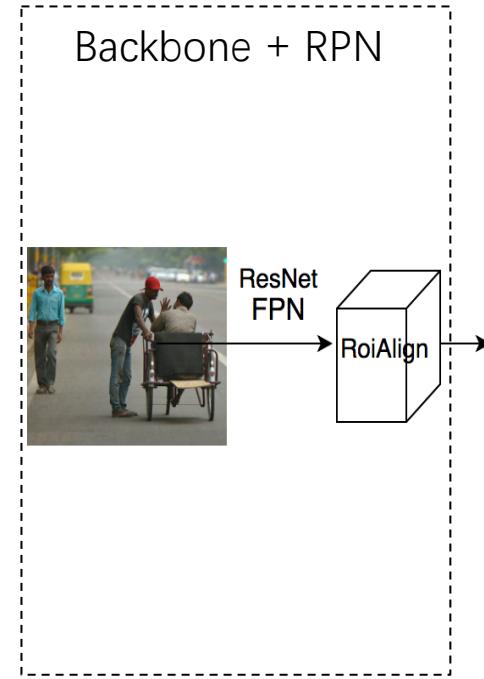
Data Distillation Results



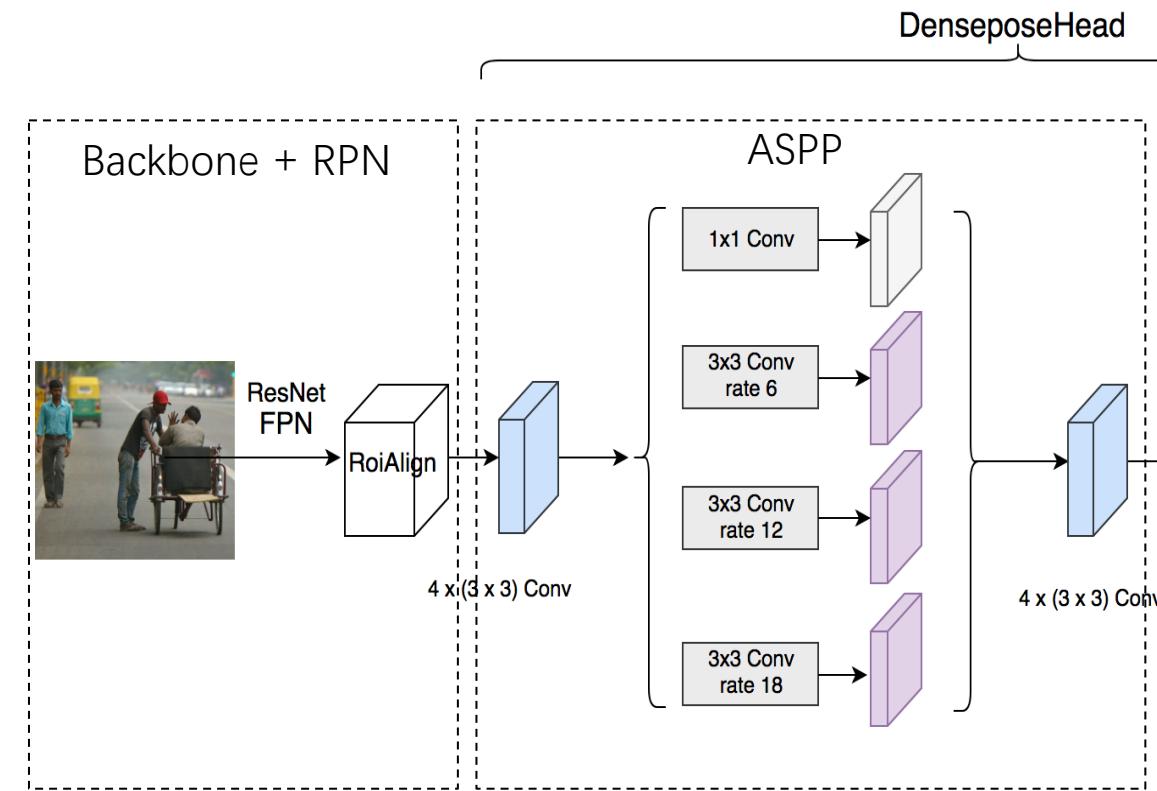
How to make the DensePose network better?



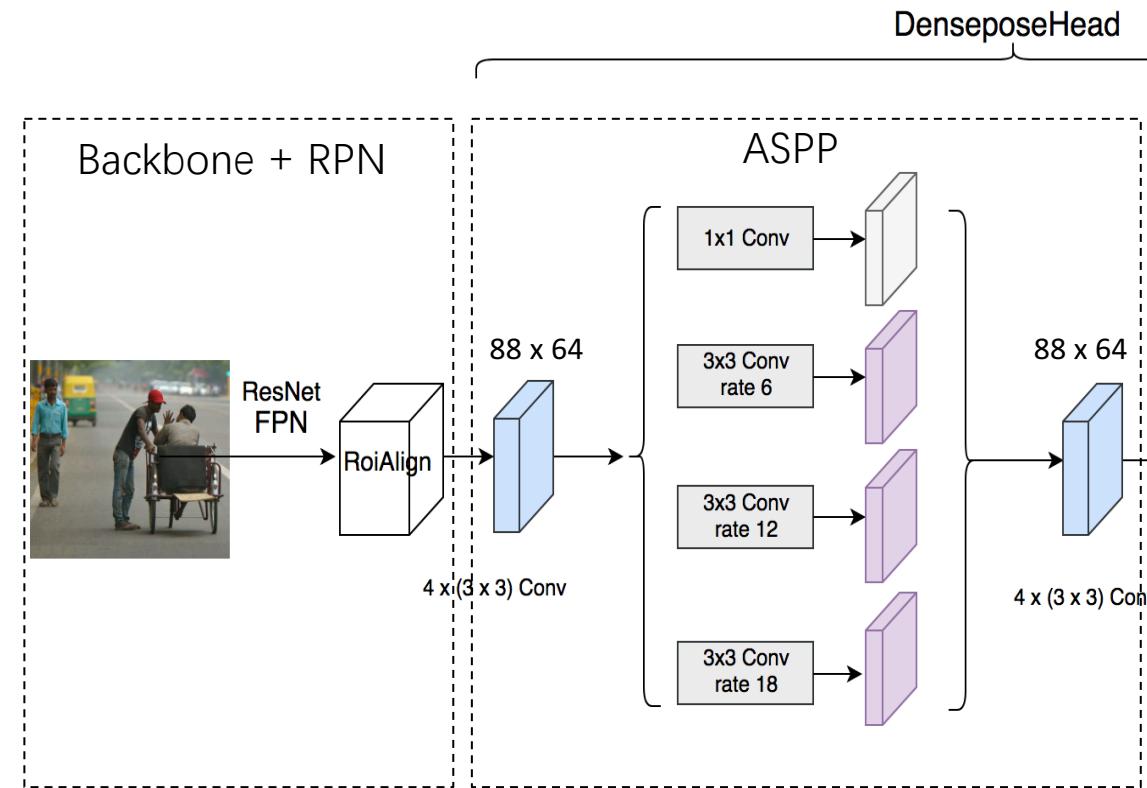
- **Top-down Pipeline**
 - FPN + Mask R-CNN
 - Backbone: SeNet154
 - Data: COCO only



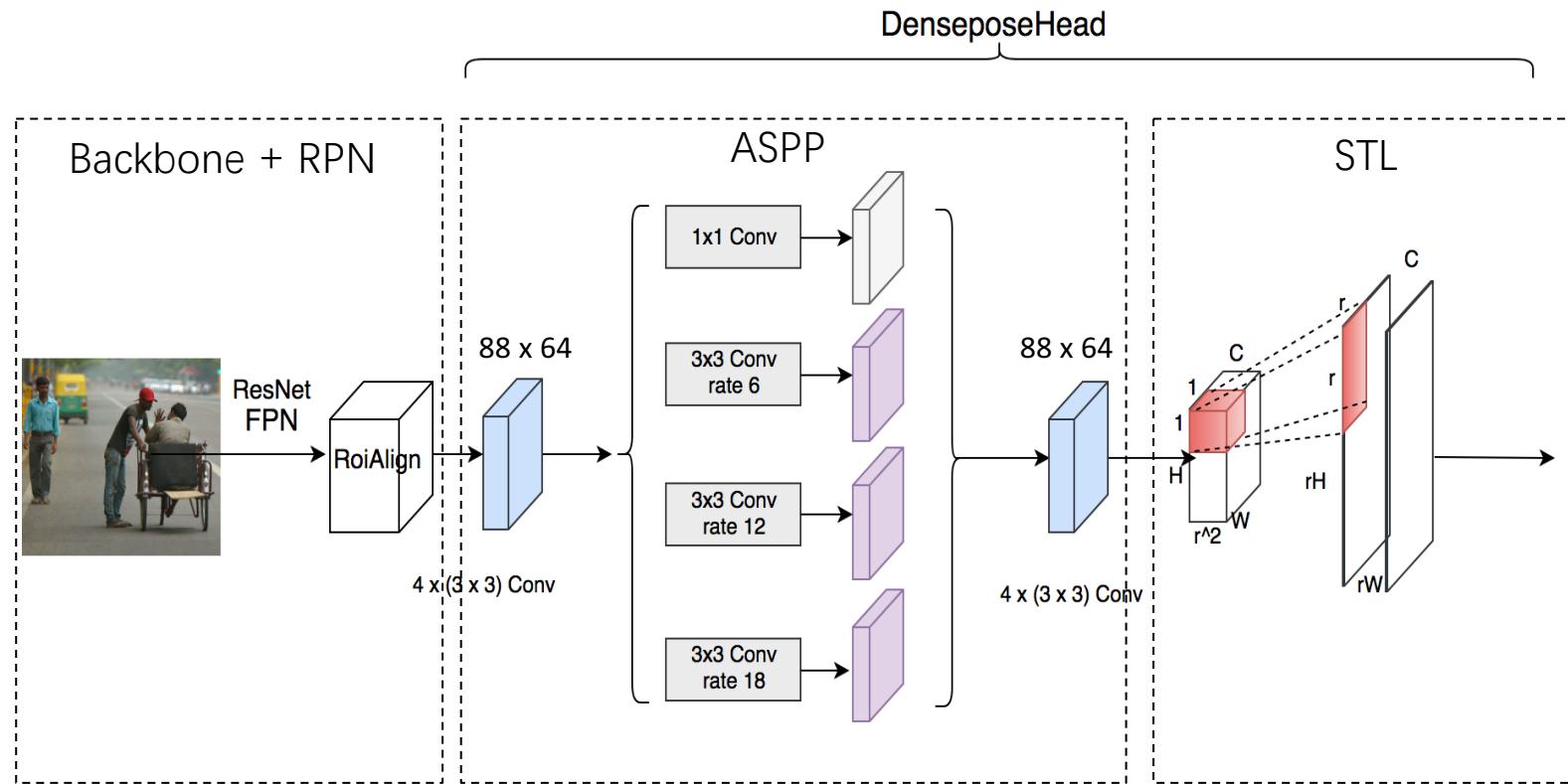
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- **DensePose head**
 - Atrous Spatial Pyramid Pooling



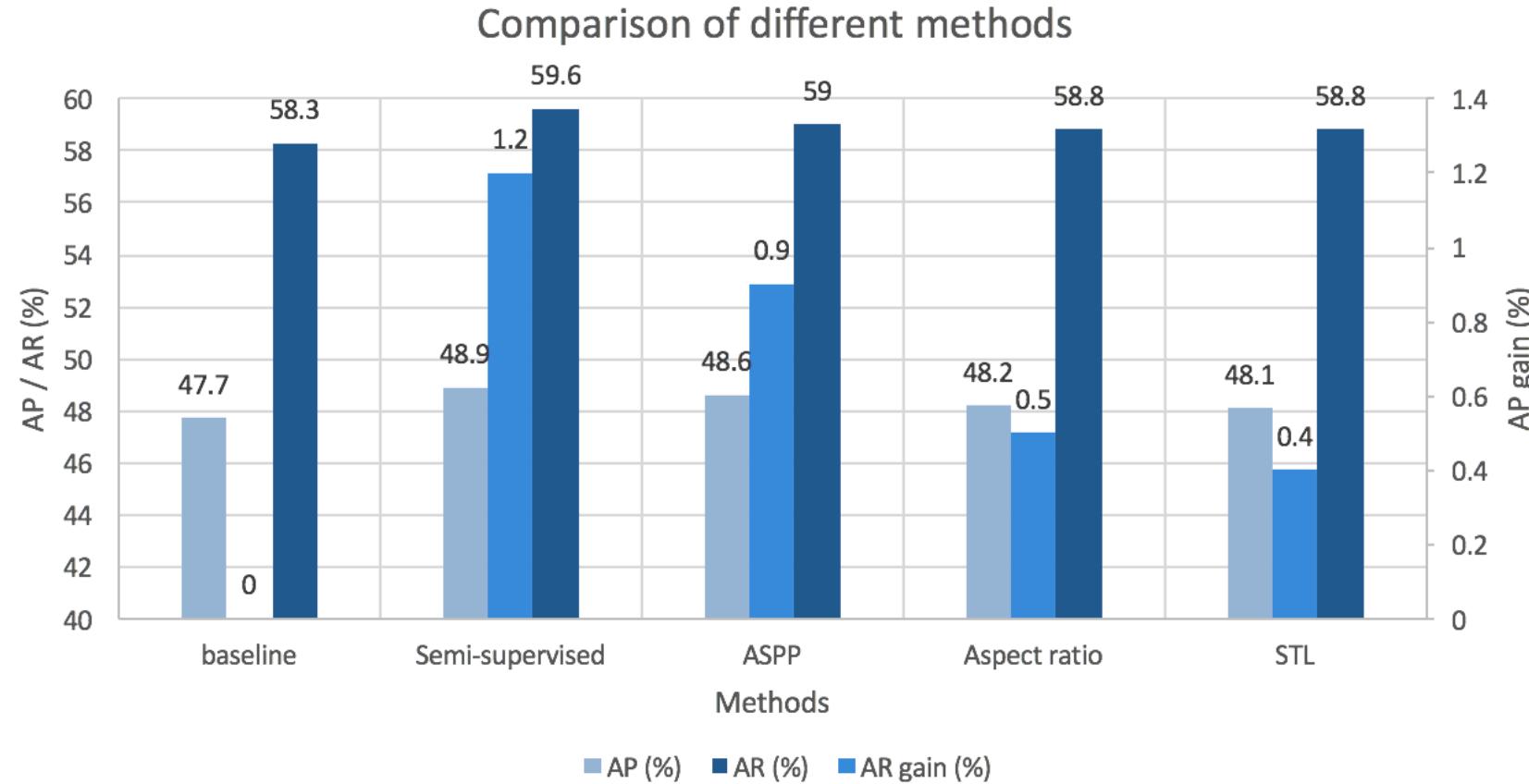
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- **Top-down Pipeline**
 - FPN + Mask R-CNN
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 - Scale Transfer Layer



Experiments



Due to the time limit, we only compared different methods on ResNet-18.

Results

	Data	Data	AP	AR
Our single model	val	Detection	0.641	0.225
		DensePose	0.574	0.689
	test	Detection	-	-
		DensePose	0.568	0.685

Finally, We use single model (SeNet-154) as our final submission.

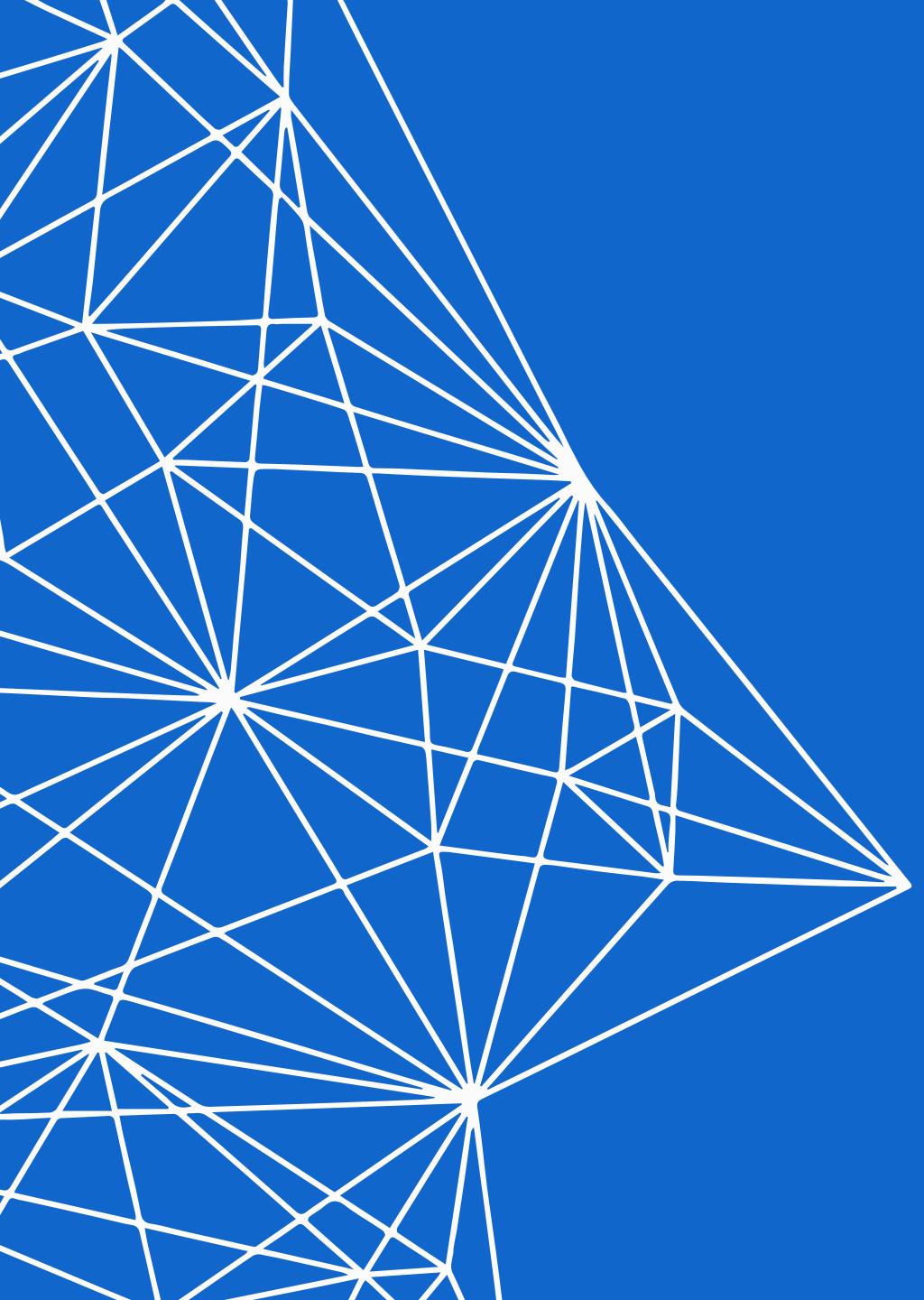
Results Visualization



Resnet50 (Baseline)



Resnet50 (Ours)



THANKS !