wadduwage lab

for Differentiable Microscopy ($\partial\mu$)

HARVARD UNIVERSITY

Quantification of Cells in Native Tissues with Object detection and Weak Supervision

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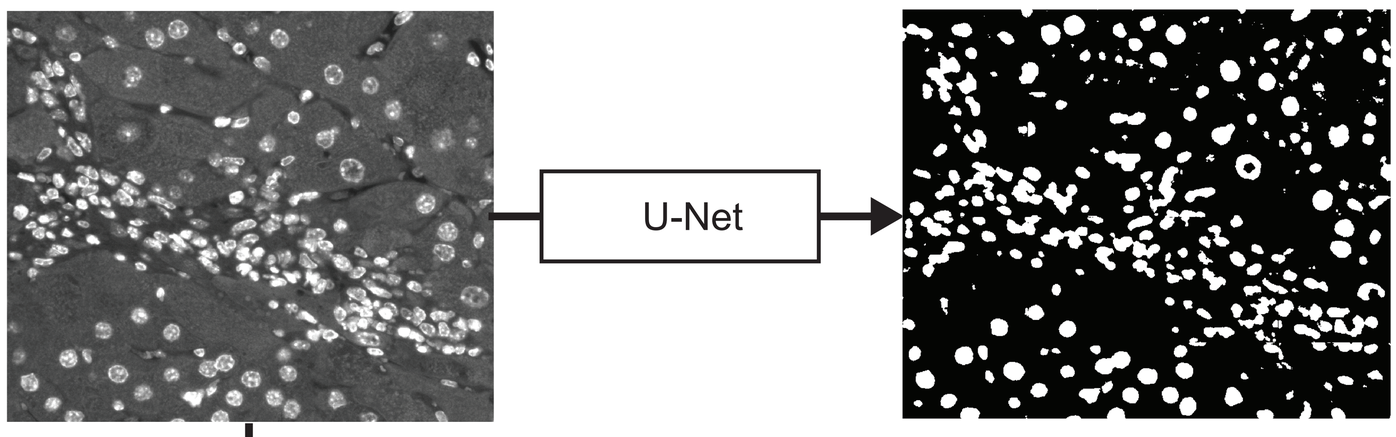
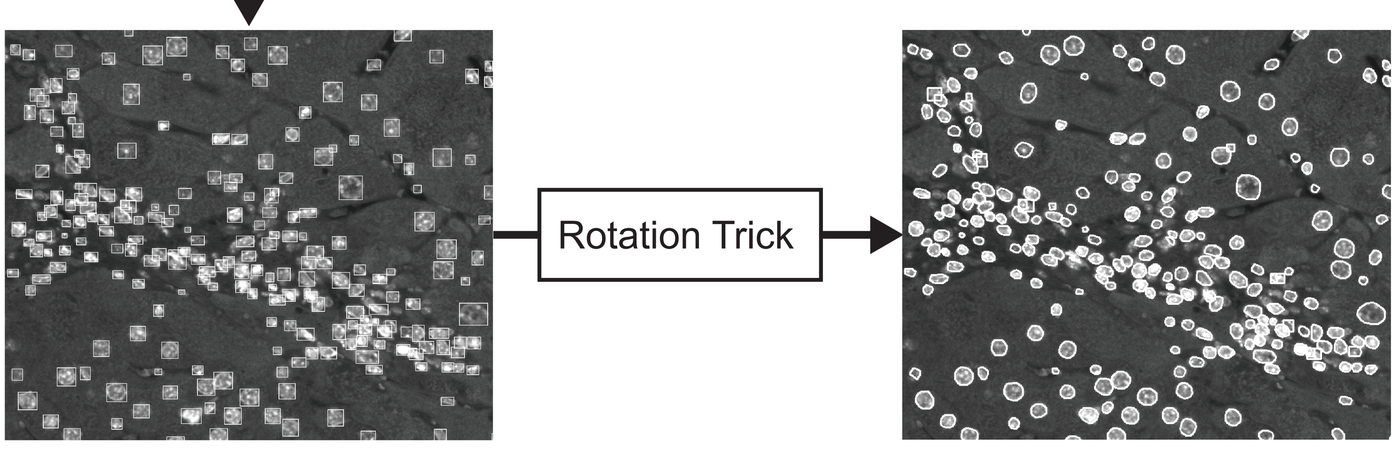
Current Algorithms Segments Objects to Detect them

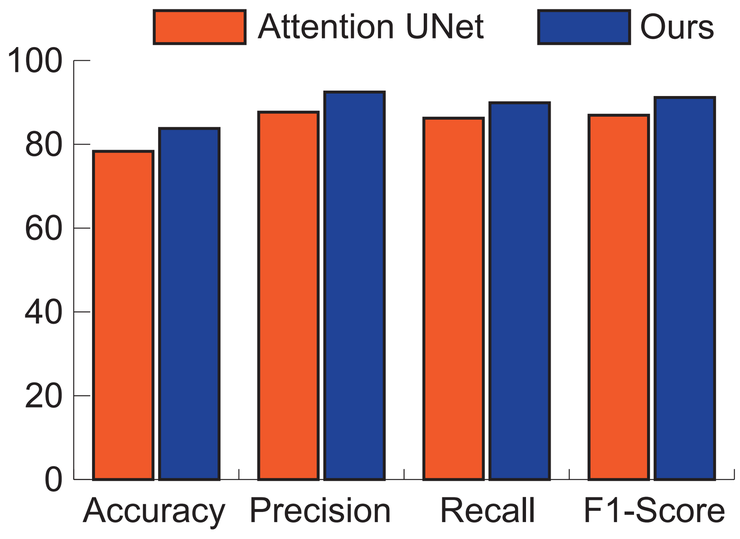


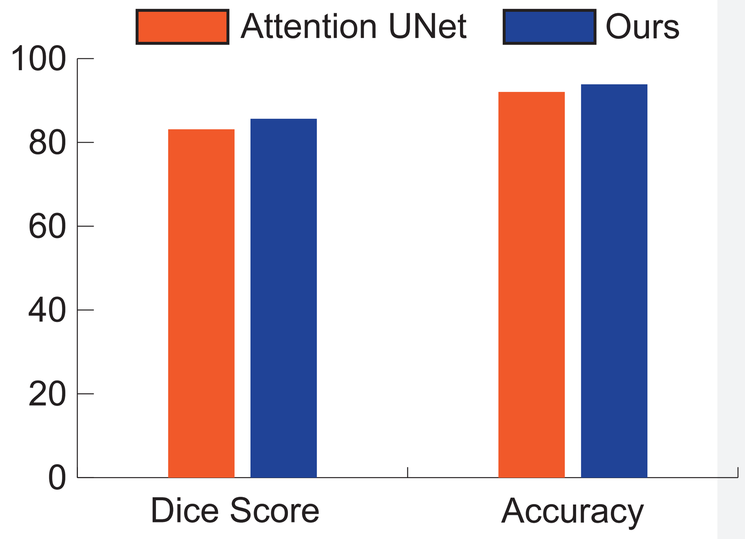
Why Not Detect (and then Segment) ? THAT'S EASIER!

Faster R-CNN Object Detector M1



But Does it Work Better ?



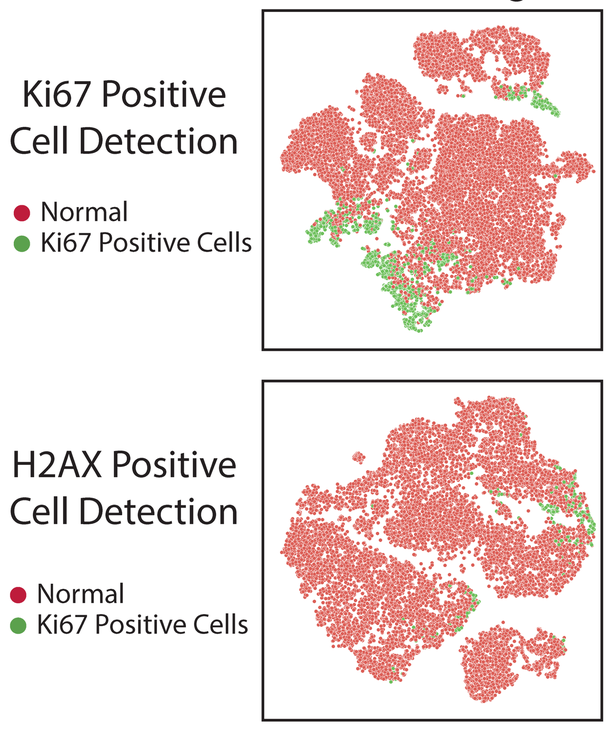


What's Next? Quantify Objects Weakly-supervised

M2 Unsupervised Pre-training

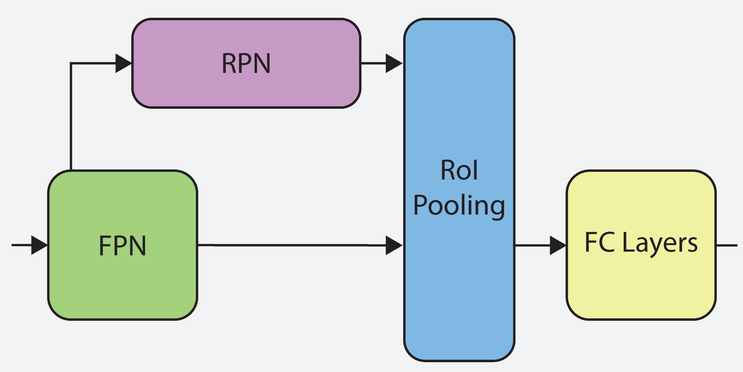
M3 Supervised Fineuning

M4 Distillation



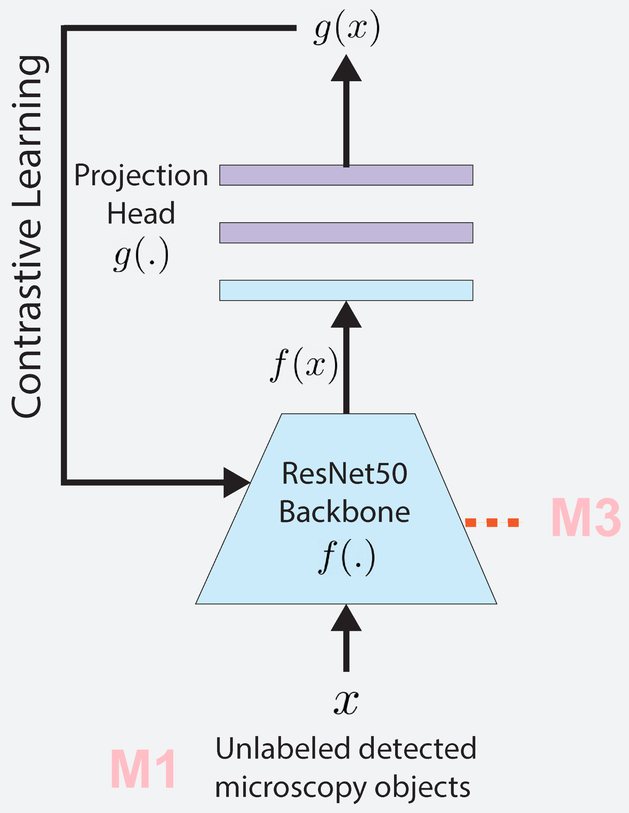
Methords

M1 Faster R-CNN Object Detector

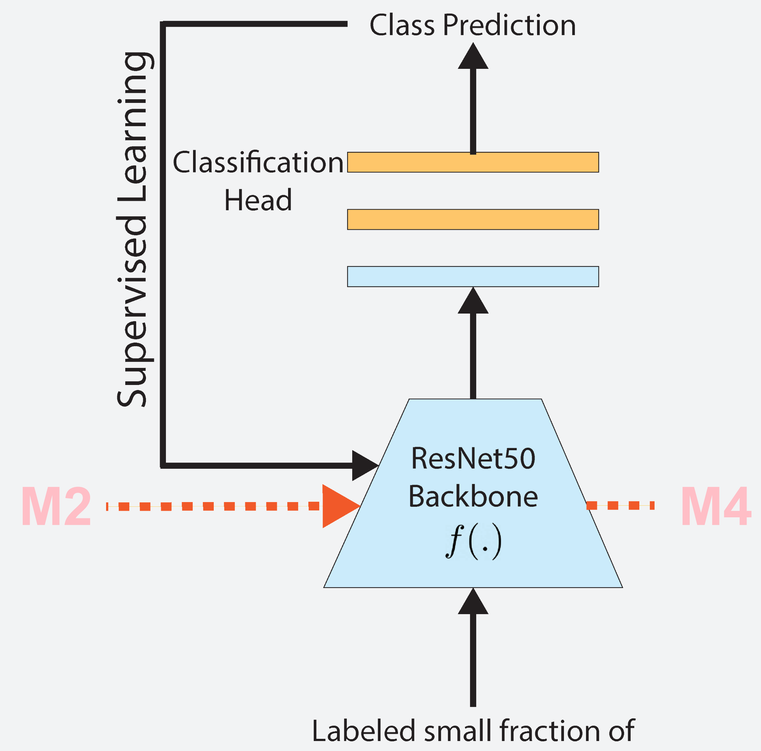


*FPN: Feature Pyramid Network
*RPN: Region Proposal Network
*FC : Fully Connected

M2 Unsupervised Pre-training



M3 Supervised Finetuning



M4 Semi-supervised Distillation