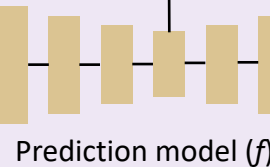
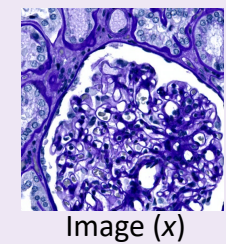
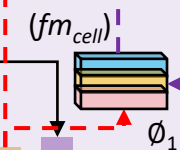


Partial label model

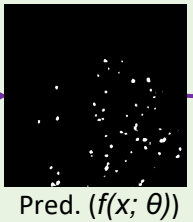
Task id 1
Mesangial



Feature map (f_D) ϕ_4
Cell feature (f_{cell})



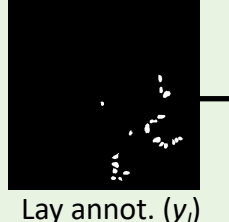
Similarity of cells
(Sim_{cell})



1 - Confidence (c)



1 - Lay annot. (y_l)



Consensus
Negatives

Consensus
Positives

$Sim_{cell} \times y_l$

$$\phi_1 = \text{top-k}(f_D, c \times y_l)$$

$$\phi_2 = \text{top-k}(f_D, (1 - c) \times y_l + c \times (1 - y_l))$$

$$\phi_3 = \text{Sim}(f_{cell}, fm_{noise}) \times fm_{noise}$$

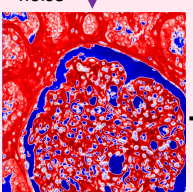
$$\phi_4 = \text{Sim}(f_{cell}, f_D)$$

$$\phi_5 = \text{Sim}(f_{noise}, f_D)$$

Feature map (f_D) ϕ_5

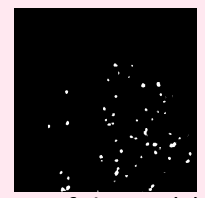


Noise feature (f_{noise}) ϕ_3

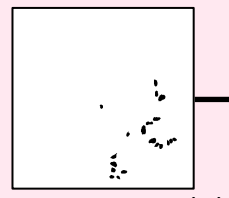


Similarity of noise (Sim_{noise})

$L_{contrastive}$



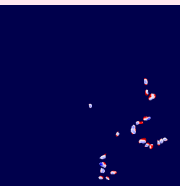
Confidence (c)



1 - Lay annot. (y_l)

Disagreement
Model-positives

Disagreement
Human-positives



$Sim_{noise} \times y_l$

$L_{supervise}$

Operation

Consensus-guided supervision