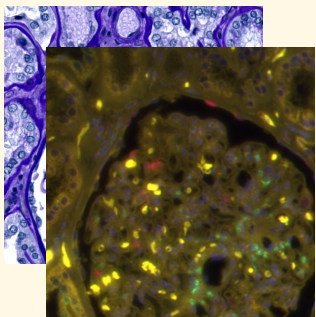


Lay annotator

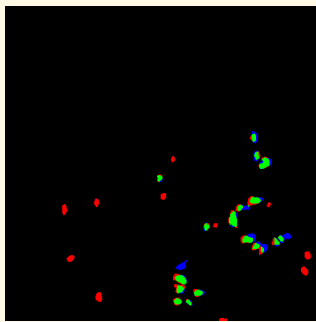
• Senior undergrad
• Engineering major
• Non-expert



Anatomical +
molecular images



Annotation metric



TP
FP
FN

AI model

• Data-driven
• Noise labels
• Embedding

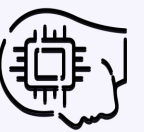
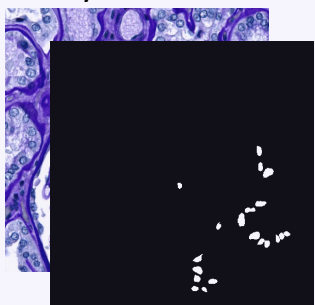
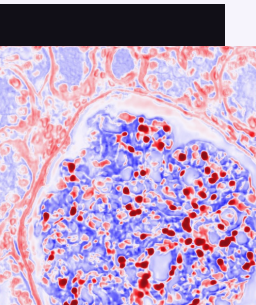


Image +
lay annotation



Self-corrective
awareness



Top features
Bottom features

Consensus matrix



Cell	Non-cell
Consensus Positives (CP)	Disagreement Human-positives (DH)
Disagreement Model-positives (DM)	Consensus Negatives (CN)



Consensus :

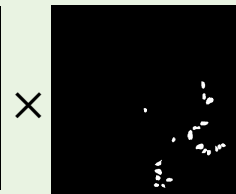
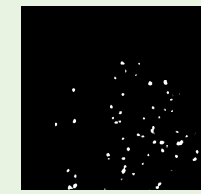
- Regions agreed upon by Lay annotator and AI model.
- Cell and non-cell regions

Disagreement:

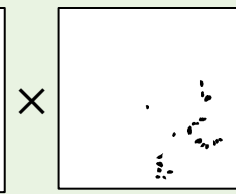
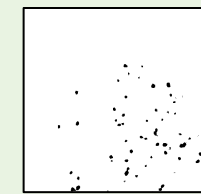
- Disagreement regions between Lay annotator and AI model.
- Cell or noise regions.

Consensus-guided supervision

CP



CN



Supervised learning
on consensus regions



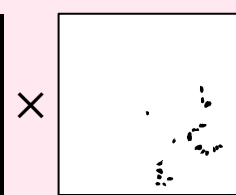
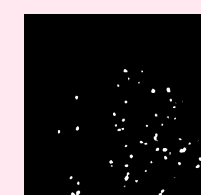
Consensus
label

Prediction
label

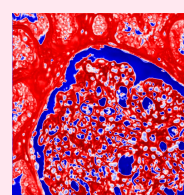
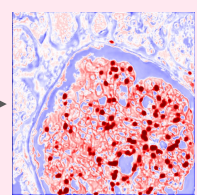
DM



DH



Contrastive learning on
disagreement regions



Cells
feature

Noise
feature