

Informative Class Activation Map

Zhenyue Qin¹, Dongwoo Kim^{1,2}, Tom Gedeon¹ Australian National University¹, POSTECH²

Paper



Code

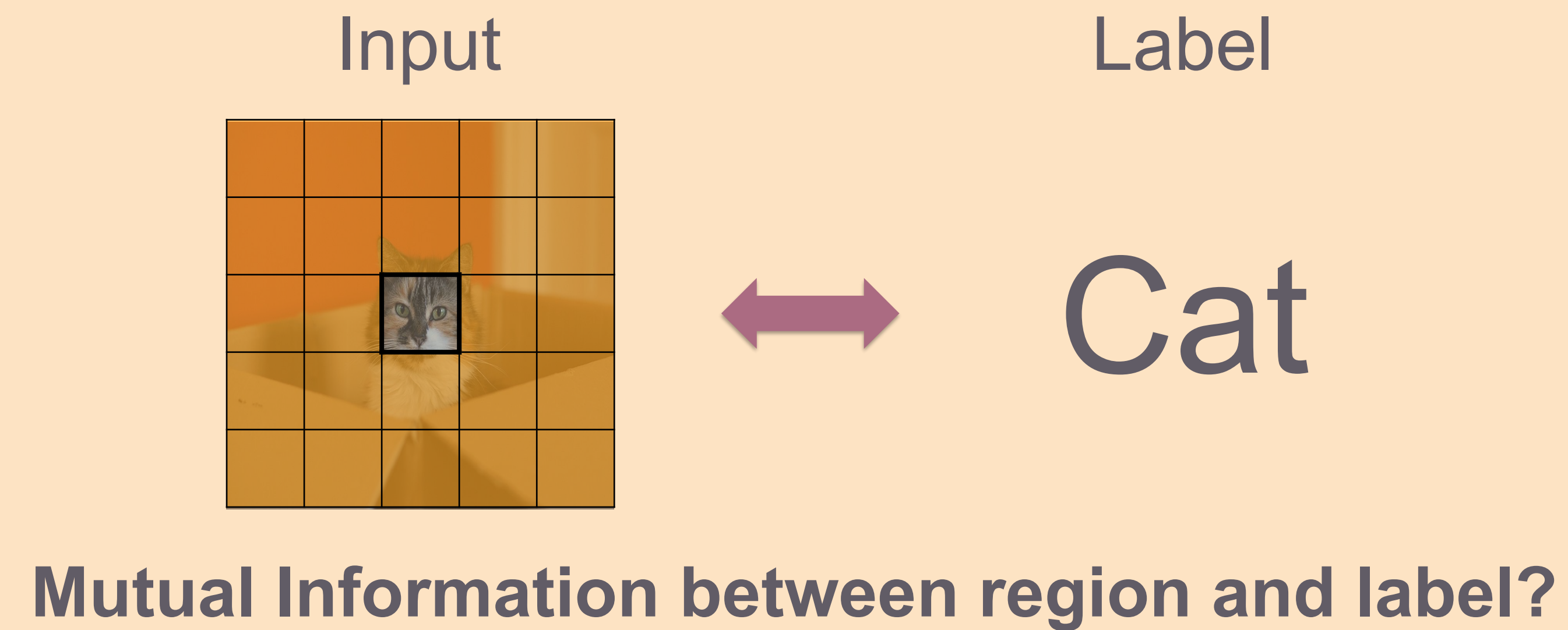


Briefing

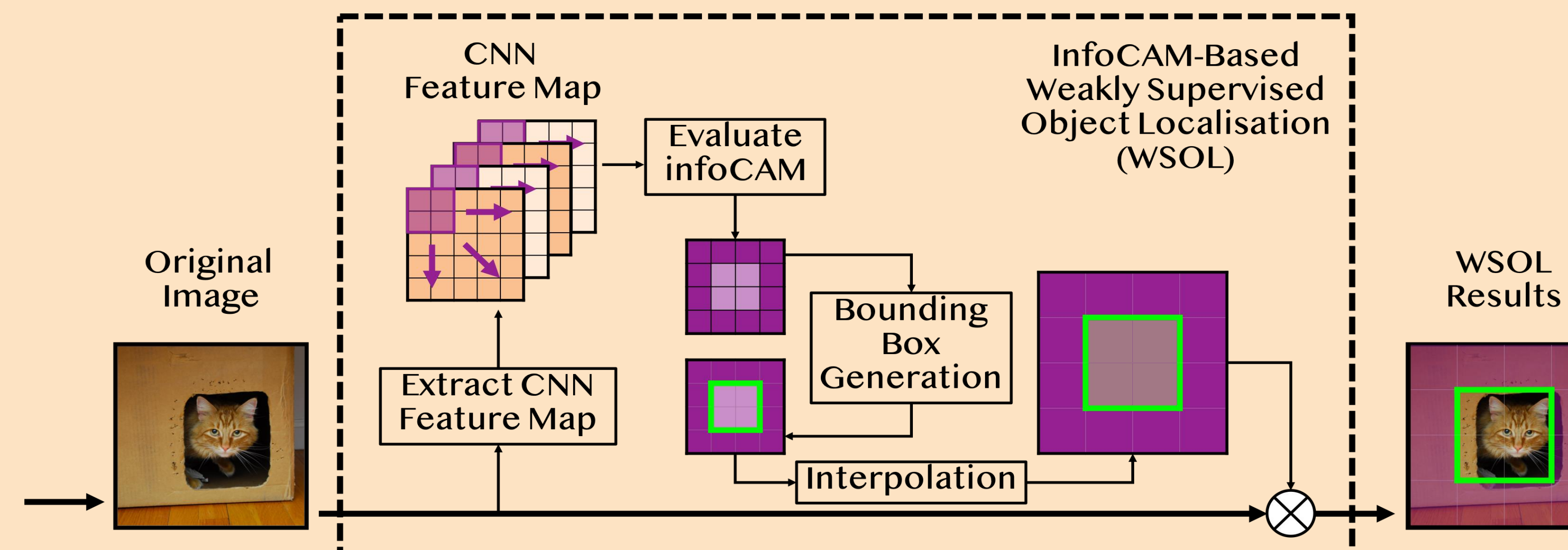
- Intuitively, the regions with high CAM values should have high information about the label.
- We aim to quantify this information using the framework of information theory.
- Variational lower bound of mutual information:
$$I(x, y) = n(x)_y - \log \sum_{y'=1}^M e^{(n(x)_{y'})} + \log M$$
- We propose InfoCAM, connecting CAM with Shannon's information theory.

$$I(x, y) = \frac{1}{M-1} \sum_{y'} I(x, y')$$

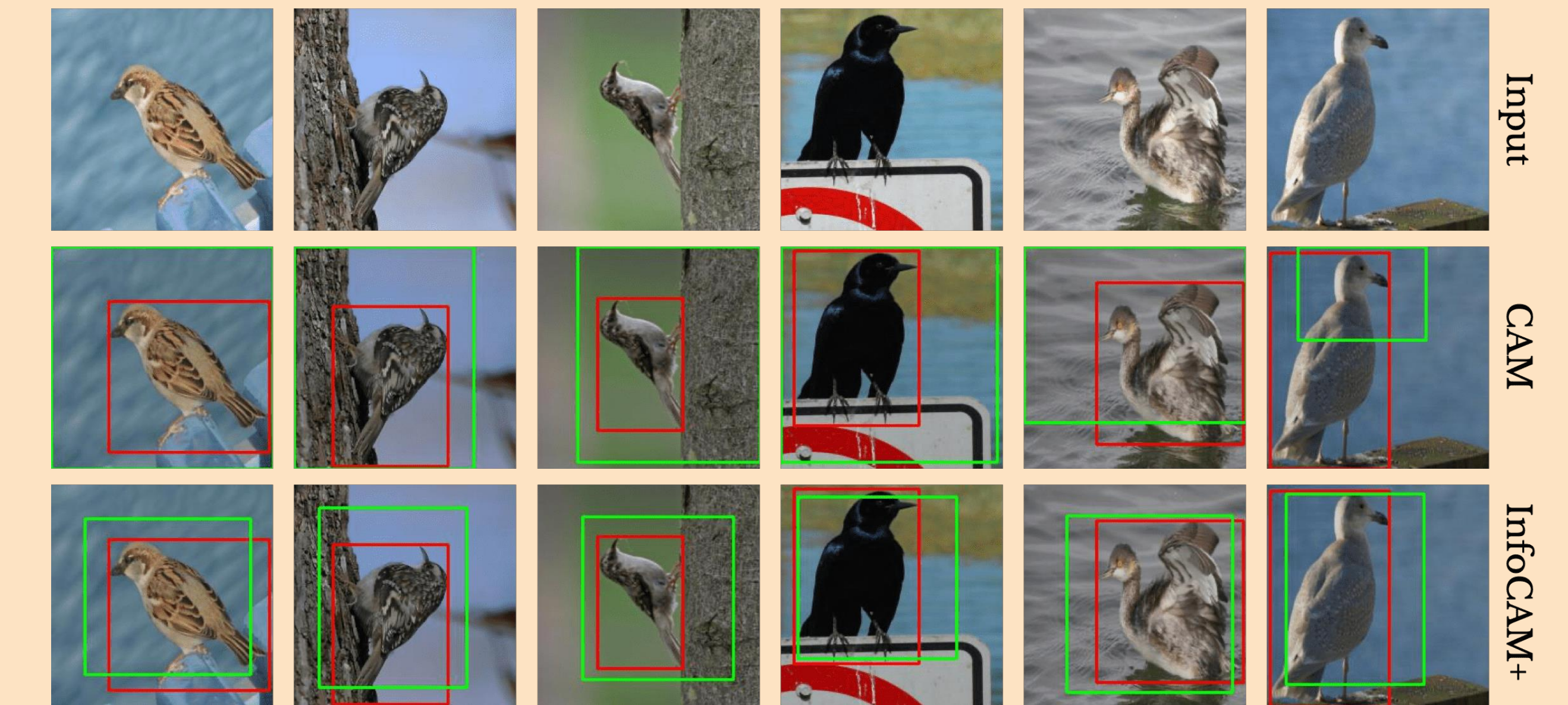
Problem to Solve



InfoCAM



Weakly Supervised Object Localization (Single Object)



Weakly Supervised Object Localization (Multiple Object)

