Icarus Prudent RSM Architecture
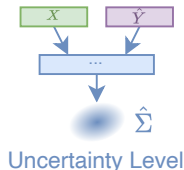
Out-of-Distribution Detector

X

...

c

Confidence Score

Prediction Model

X

...

$\hat{Y}$

Point-Prediction
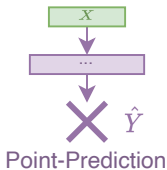
Uncertainty Quantifier

X $\hat{Y}$

...

$\hat{\Sigma}$

Uncertainty Level

Trained with
$X_{\text{ID}} [\cup X_{\text{OOD}}]$

Trained with
$(X_{\text{train}}, Y_{\text{train}})$

Calibrated with
$Y_{\text{valid}} - \hat{Y}_{\text{valid}}$

Output: $(Y \sim \hat{\Sigma}(\hat{Y})) \mid c$ **prediction** with **uncertainty**, conditioned by **confidence** score