Intelligent
Embedded Systems

Multi-annotator Probabilistic Active Learning

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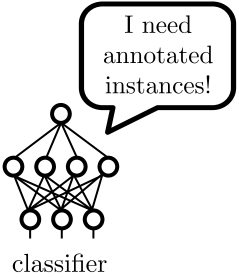
December 9, 2020

Motivation
Annotation Costs



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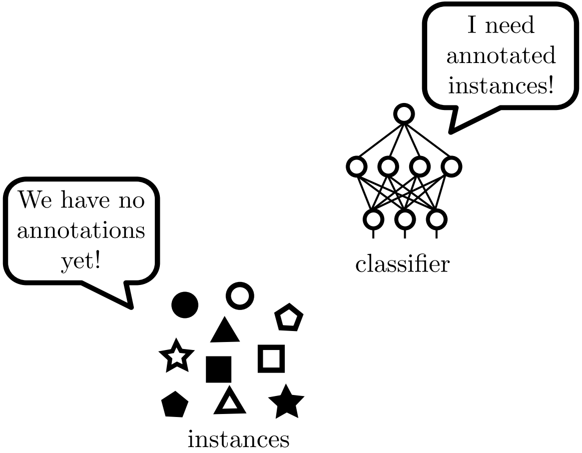

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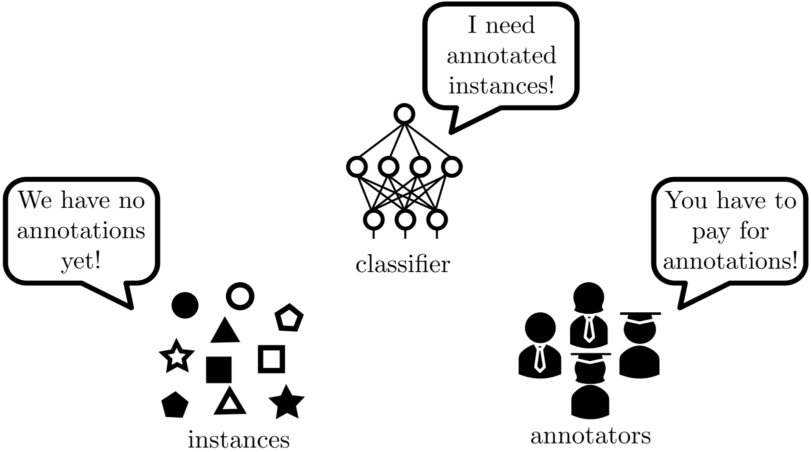

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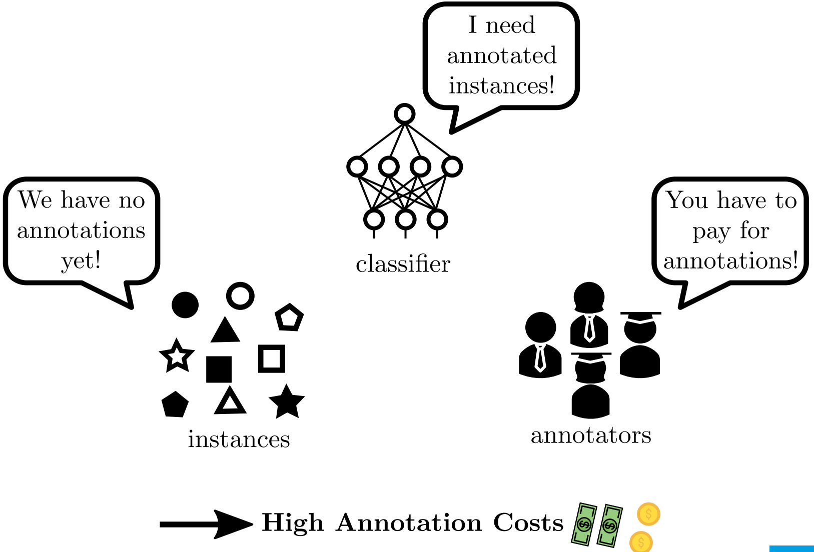

Active Learning (AL)

Through an intelligent selection of training data, AL aims at minimizing the annotation costs and the classifier's misclassification risk.

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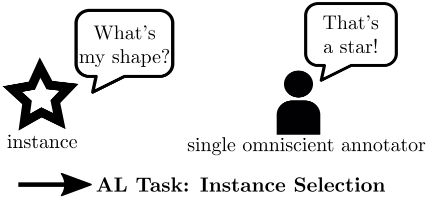

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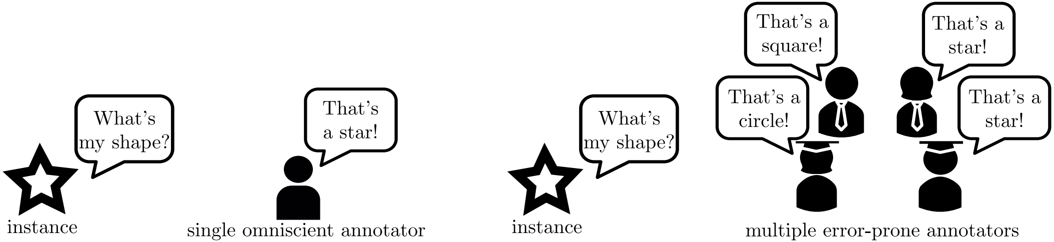

→ **AL Task: Instance Selection**

→ **AL Task: Instance + Annotator Selection**

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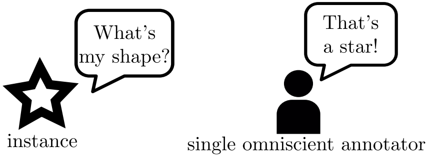
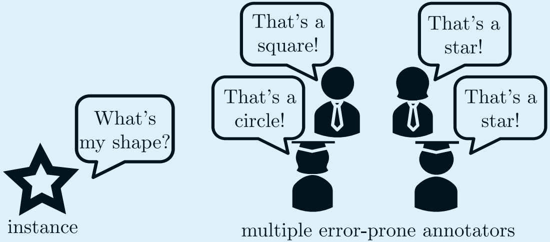


→ **AL Task: Instance Selection**

Scope: AL with Multiple Error-prone Annotators



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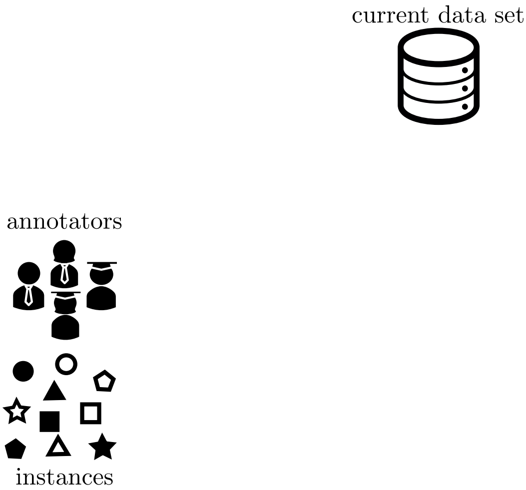
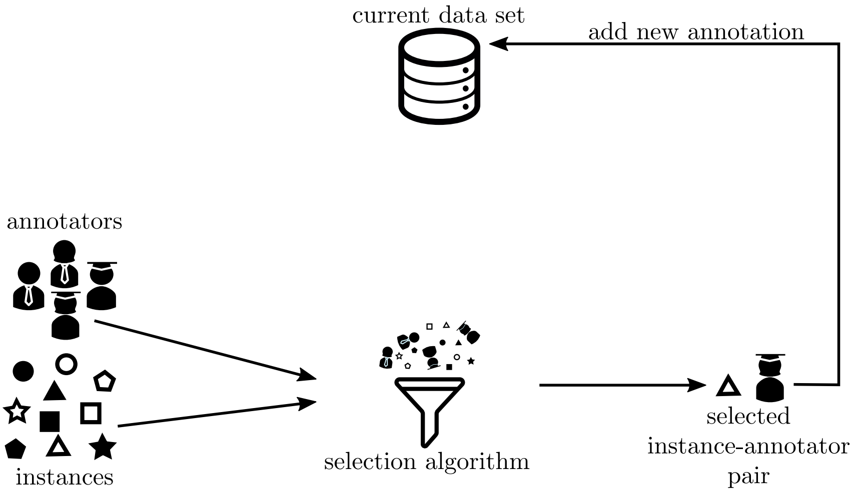
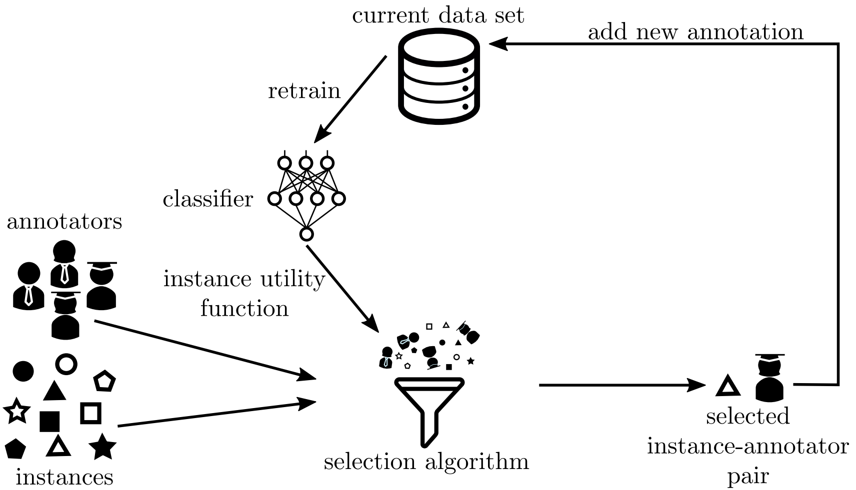
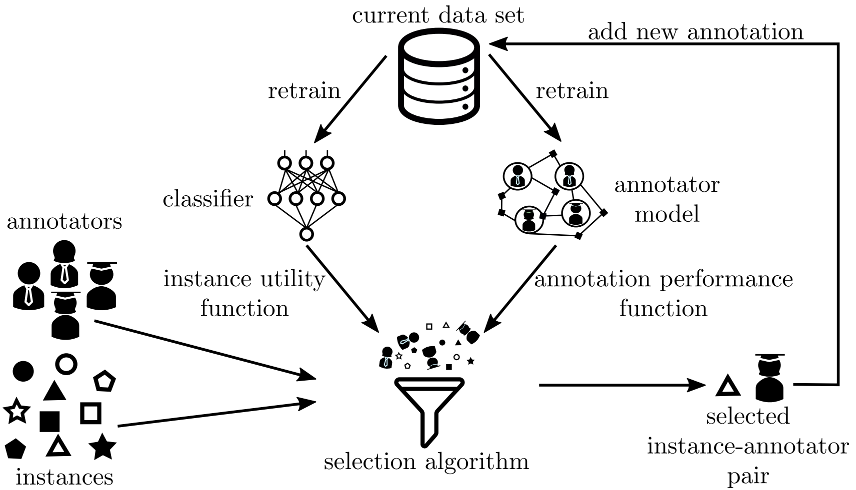

current data set
annotators
instances

MaPAL
Structure




current data set
add new annotation
retrain
classifier
annotators
instance utility
function
instances
selection algorithm
selected
instance-annotator
pair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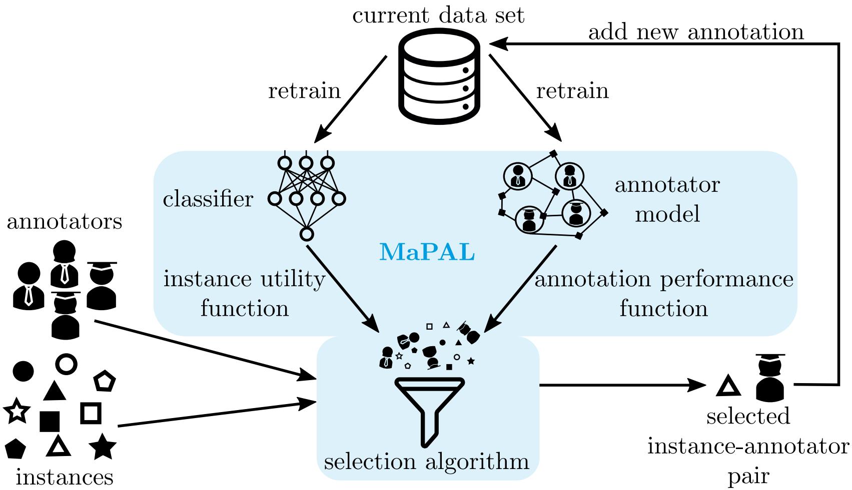
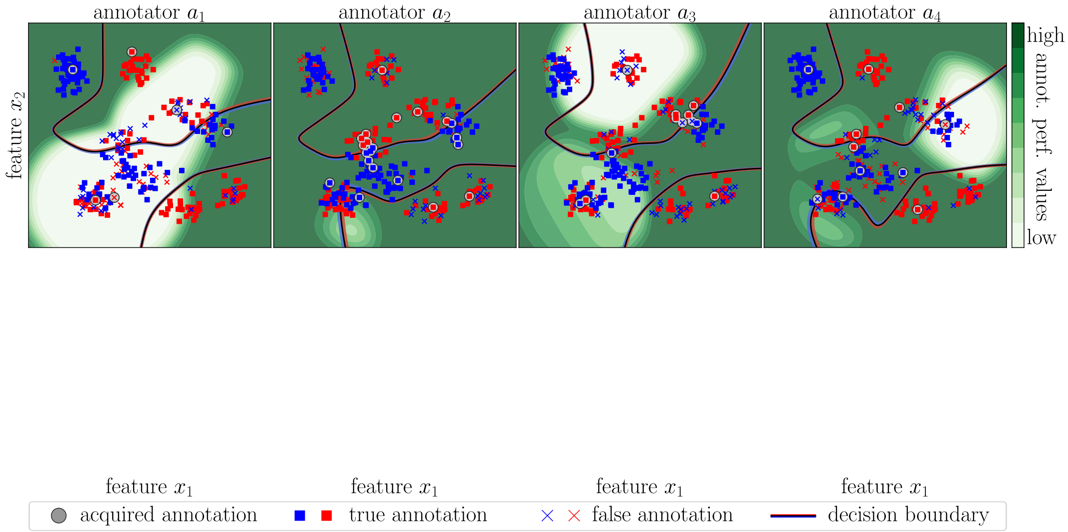
MaPAL
Structure



MaPAL
Visualization



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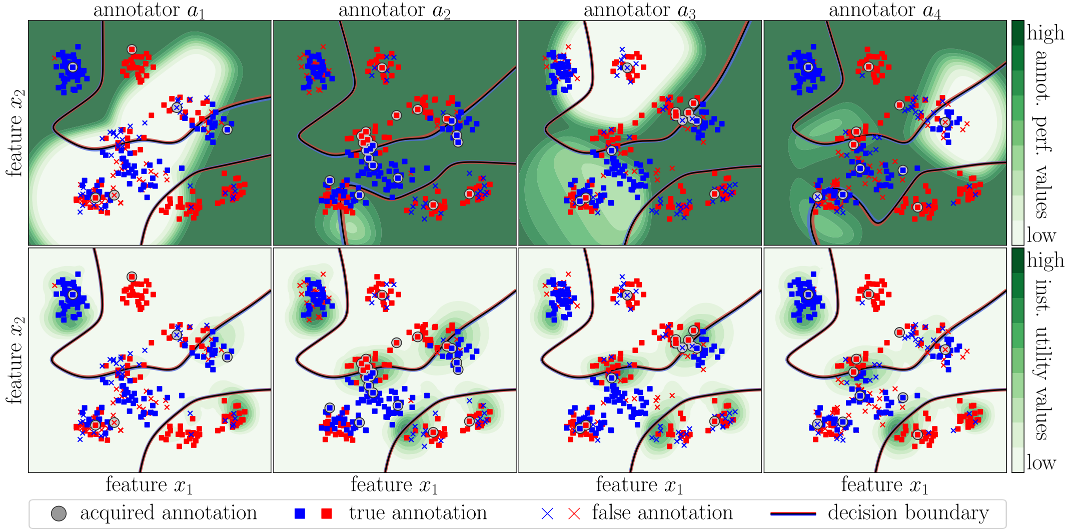
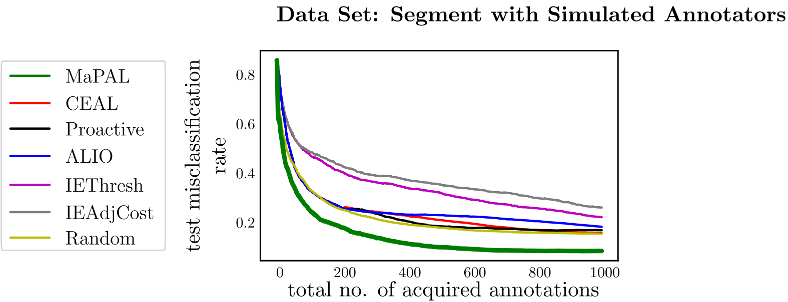


Evaluation
Learning Curves



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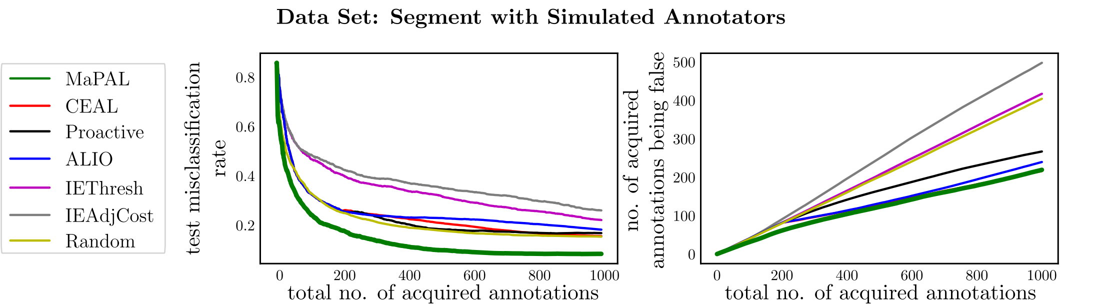
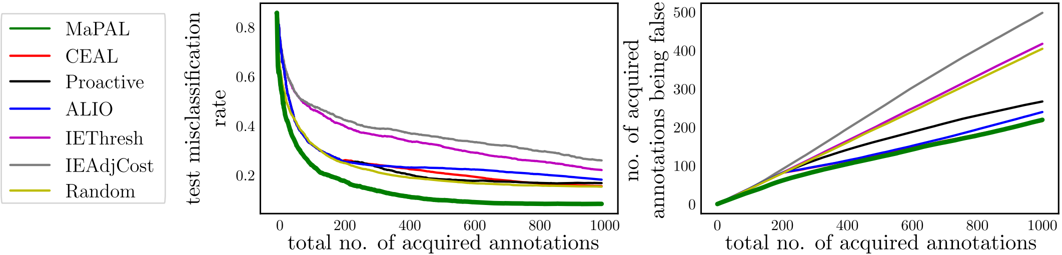


Data Set: Segment with Simulated Annotators



Further details on the experimental setup, additional results, and code are available at our repository

`https://github.com/mherde/mapal.`

Thank you for your attention!
Questions?