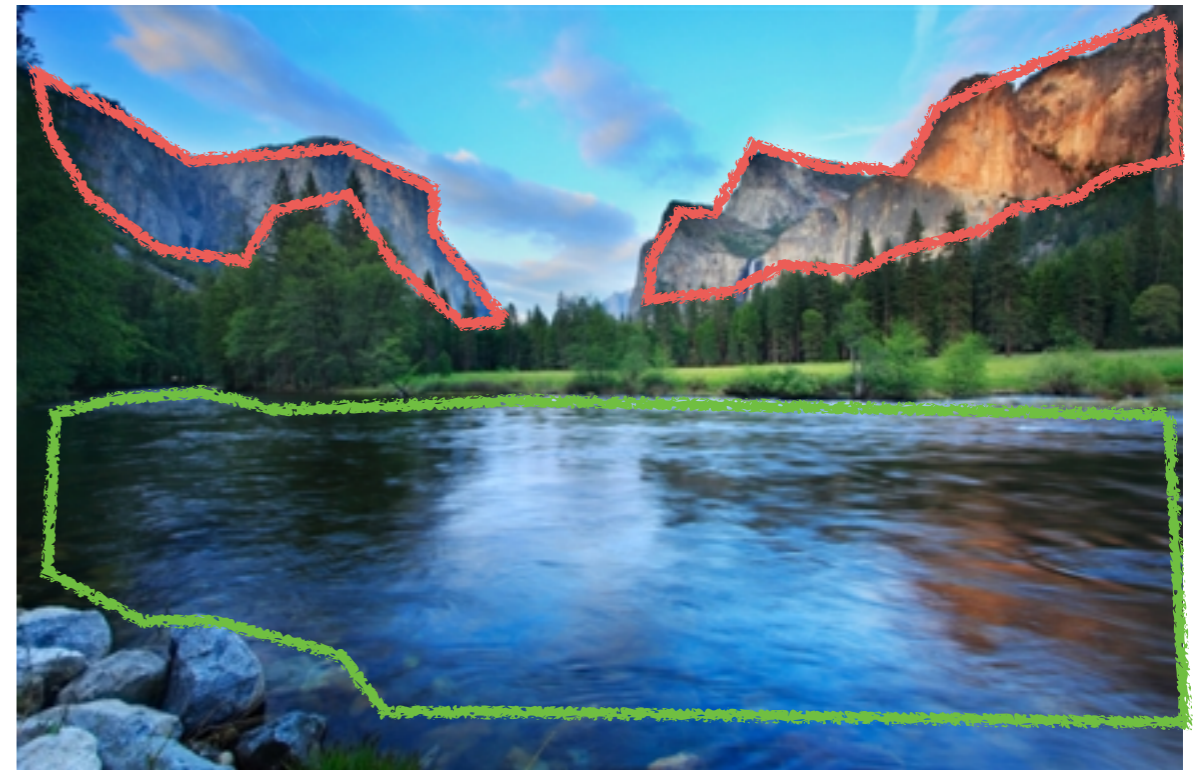


Consensus multilabel classification

Sihong Xie, Xiangnan Kong, Jing Gao, Wei Fan, Philip S.Yu

Introduction: multilabel classification



1 vote
1 answer
8 views

How show only the last content or part from my scrollview programmatically xcode ios?

objective-c

uiscrollview

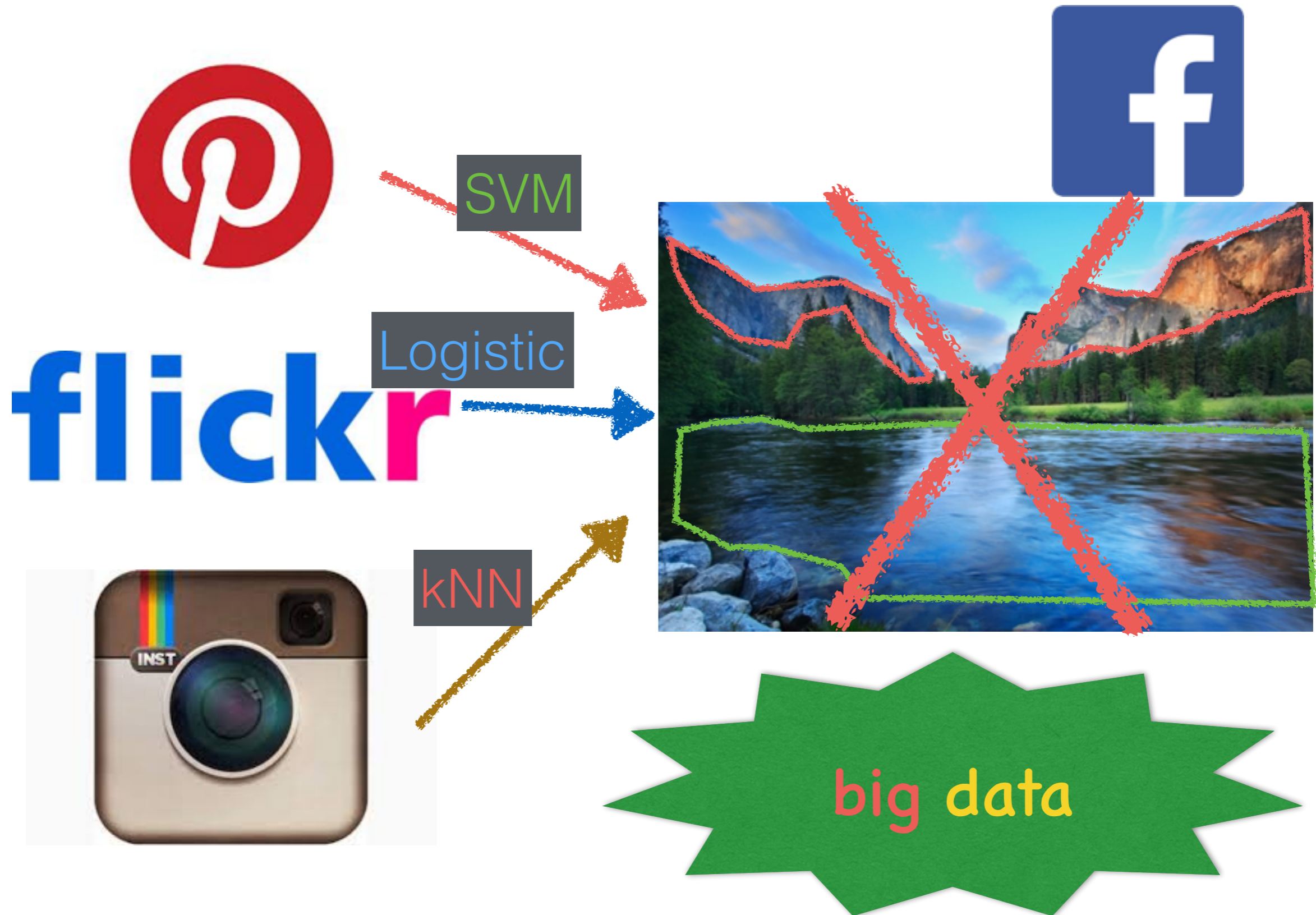
ios7

xcode5

uiscrollviewdelegate

2m ago rs

Introduction: ensemble

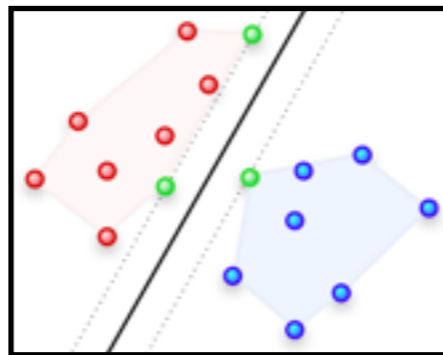


Introduction: consensus classification

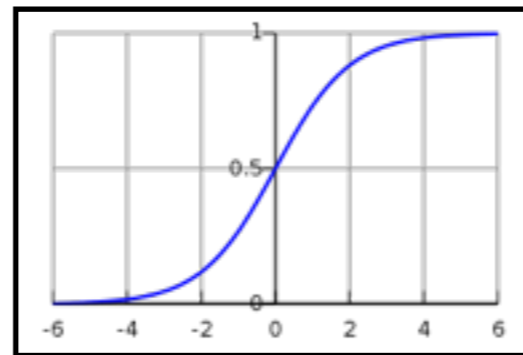
Test data



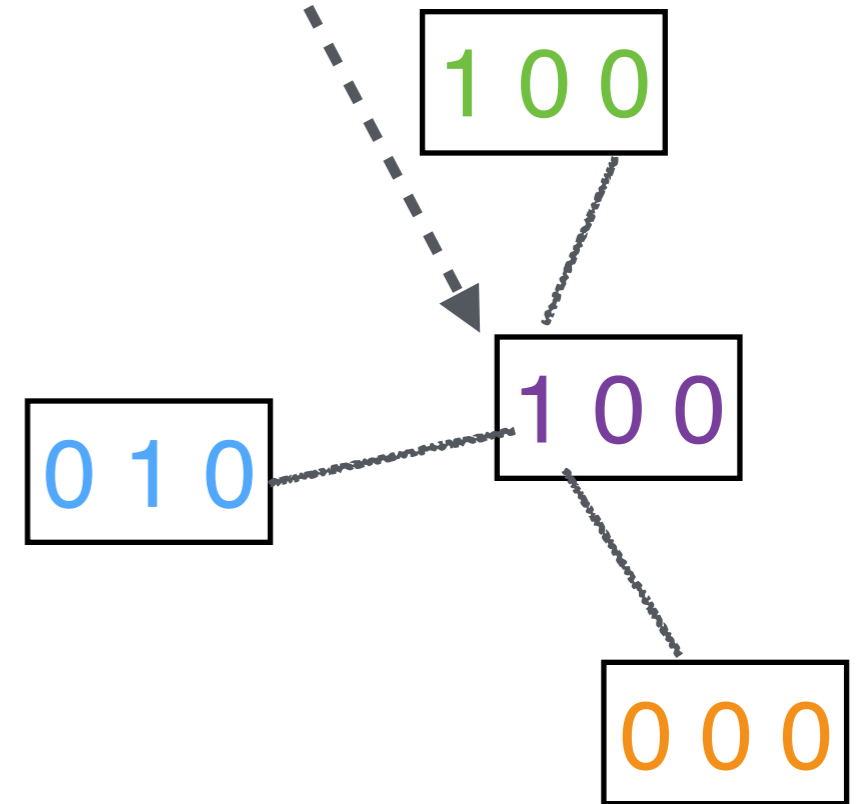
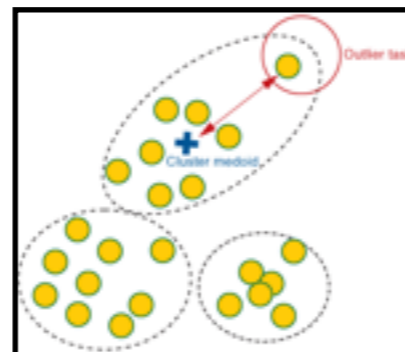
SVM



logistic



knn



Challenges

- combining multi-labeled predictions



A screenshot of a Stack Overflow question. The question text is "How show only the last content or part from my scrollview programmatically xcode ios?". It has 1 vote, 1 answer, and 8 views. The tags are "objective-c", "uiscrollview", "ios7", "xcode5", and "uiscrollviewdelegate". The "ios7" and "xcode5" tags are highlighted with green and blue boxes respectively. The text "2m ago rs:" is visible on the right.

1 vote 1 answer 8 views

How show only the last content or part from my scrollview programmatically xcode ios?

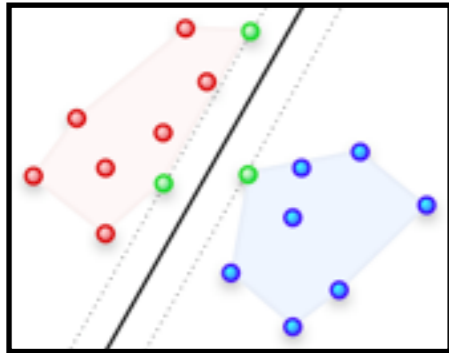
objective-c uiscrollview ios7 xcode5 uiscrollviewdelegate

2m ago rs:

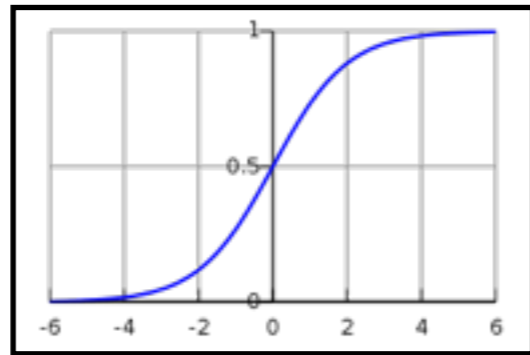
- without raw data

Problem formulation

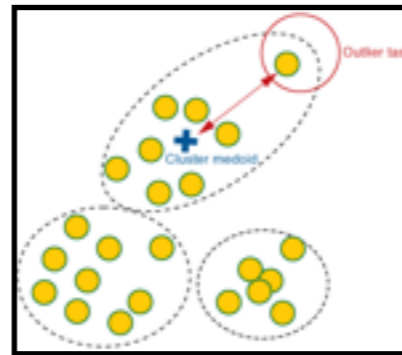
SVM



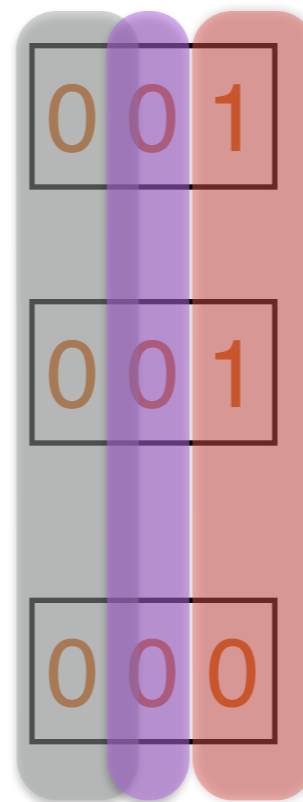
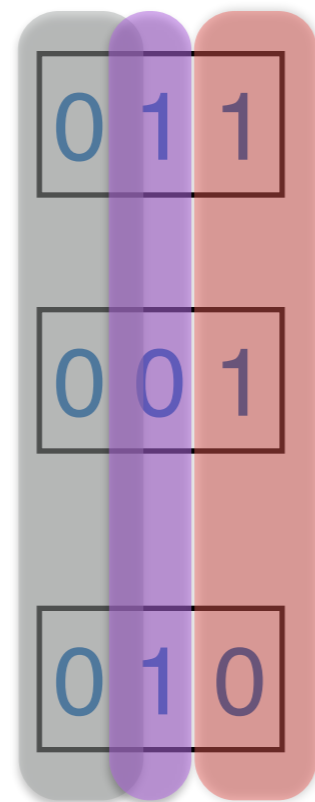
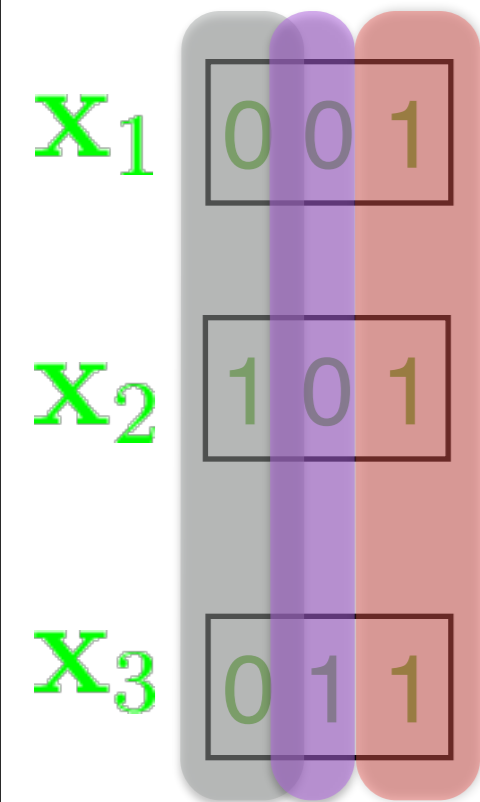
logistic



knn



consensus
multilabel
predictions



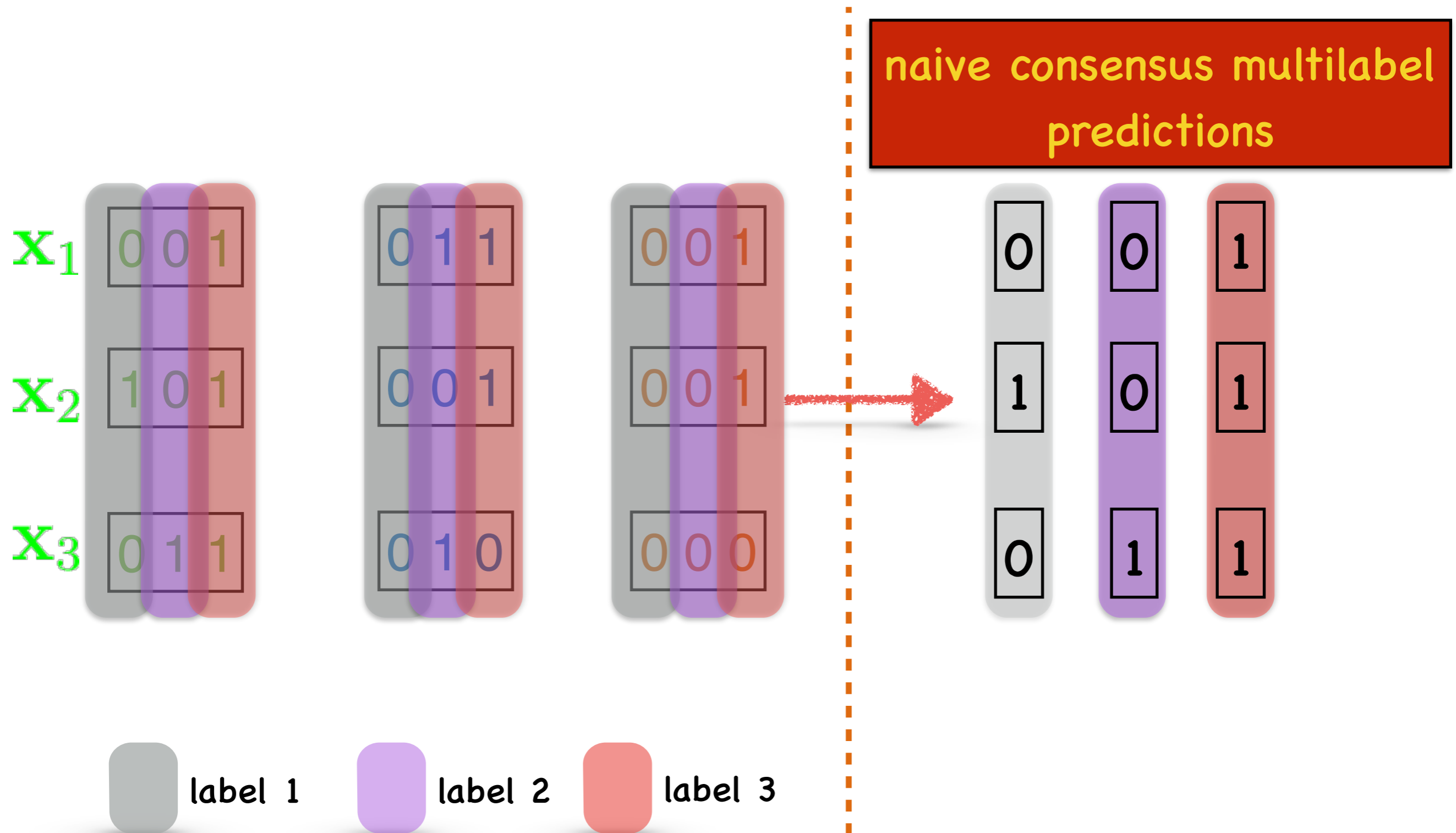
label 1 label 2 label 3

0	0	1
---	---	---

1	0	1
---	---	---

0	1	1
---	---	---

A naive solution



A better solution



desk

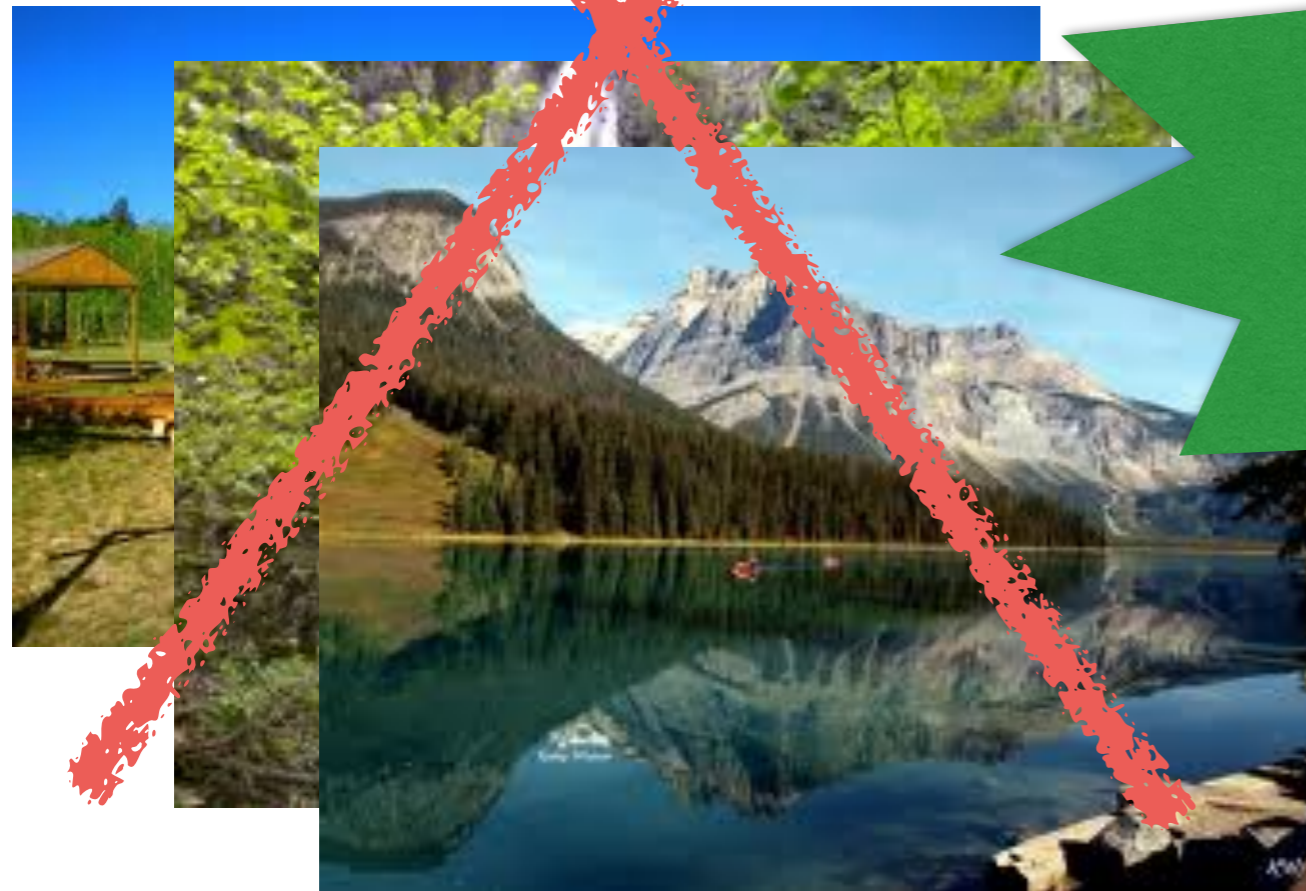
floor



help prediction
combination

tree

water



Main ideas

- Two optimization problems:
 1. Infer label correlations without raw data
 2. Combine predictions to maximize model consensus
 3. Designed for two different multilabel evaluation metrics

Experiments

- 5 datasets: enron, medical, rcv1, slashdot, bibtex

- 2 Baselines

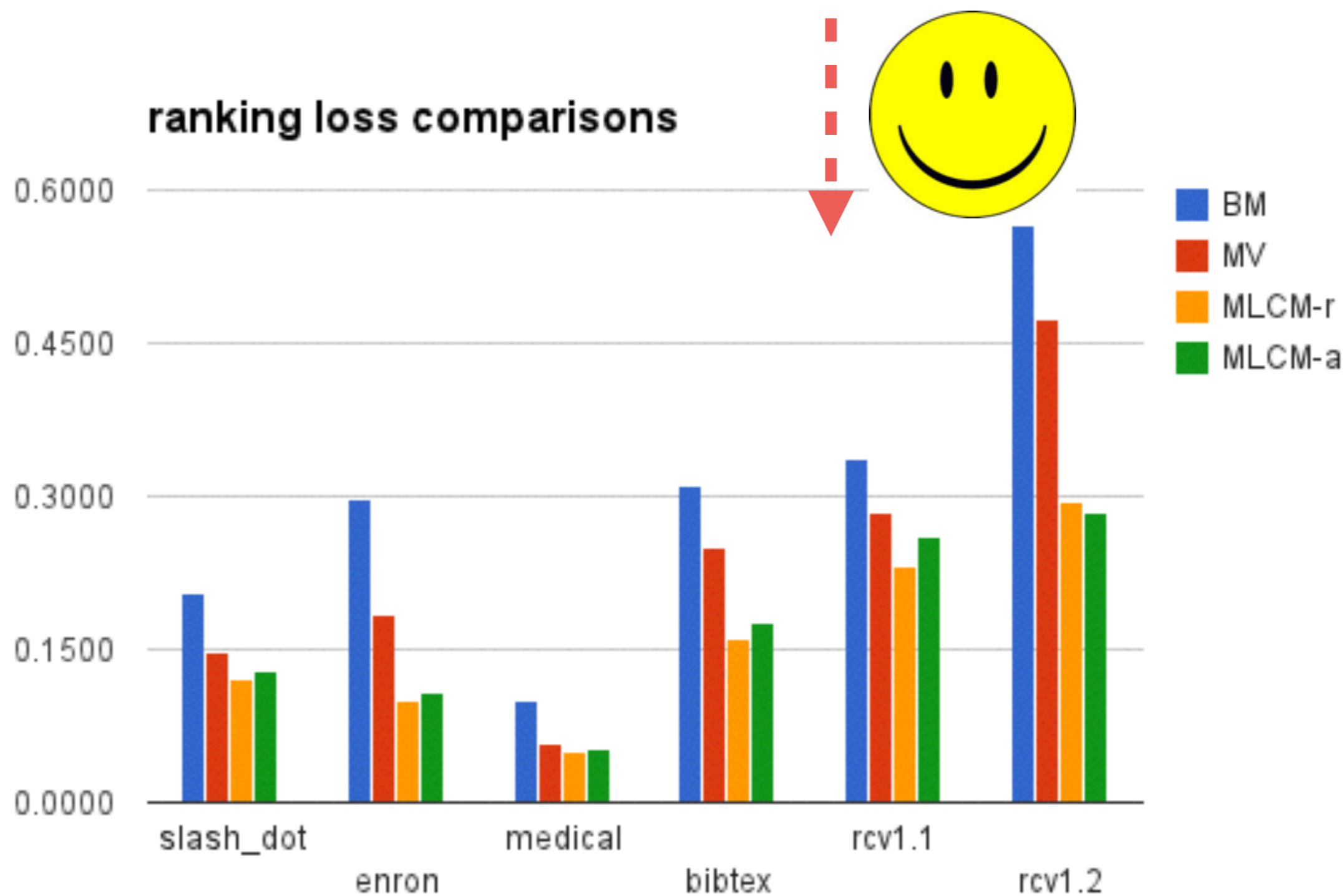
Labels are independent

- 1) average performance of 10 base models

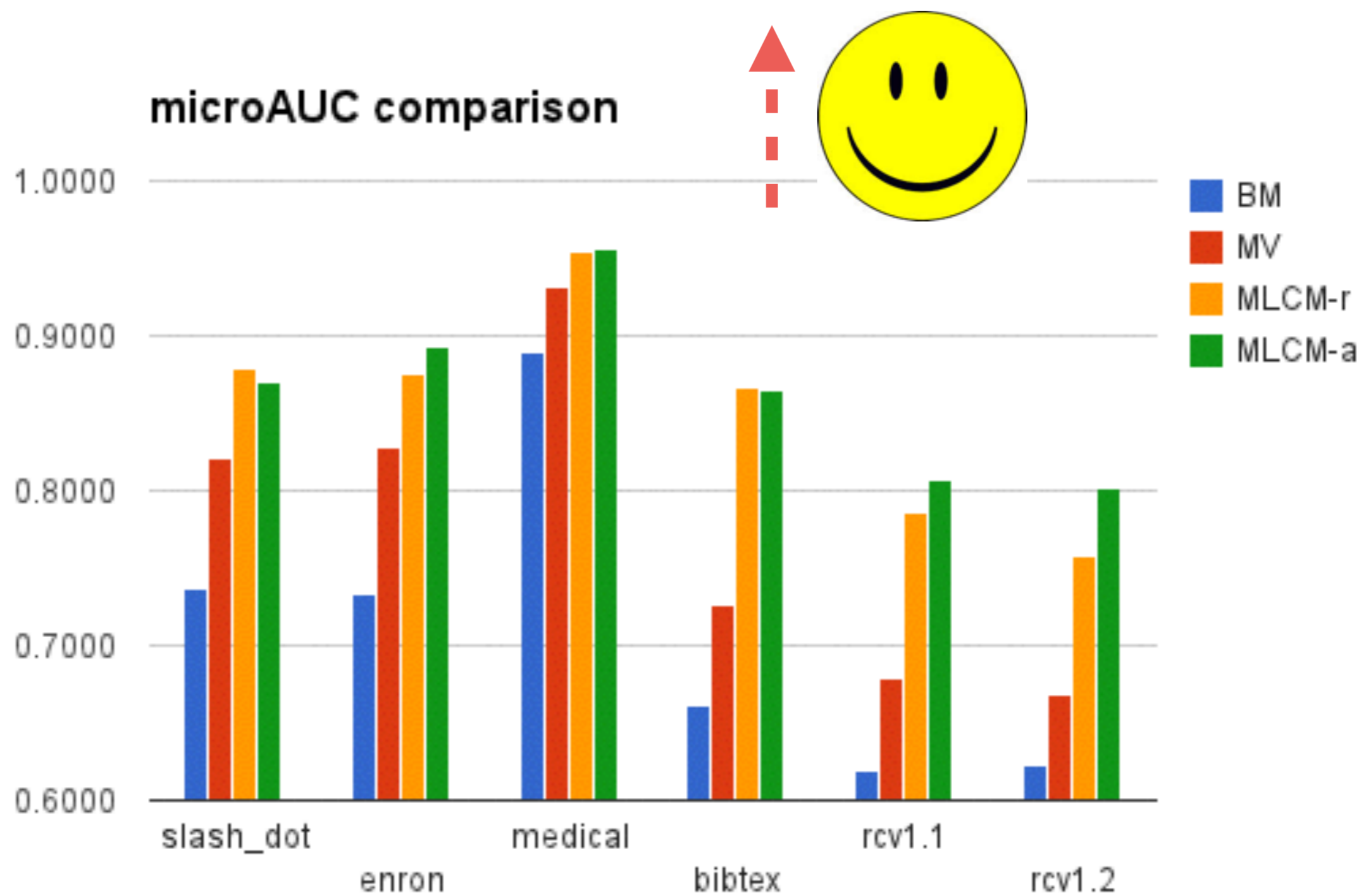
- 2) majority voting using 10 base models

- 4 Metrics: micro-AUC, one error, ranking loss, avg precision

Results



Results



Conclusion

- Big data: multiple sources, privacy, high volume
- Consensus combination: without raw data; better performance
- Multi-labeled classification: label correlation, metrics