

# Predicting Performance in Recommender Systems

Is it possible to predict the accuracy  
of a recommendation?

Is it useful?

# Hypothesis

Data available to a Recommender System  
contains signals to predict the performance

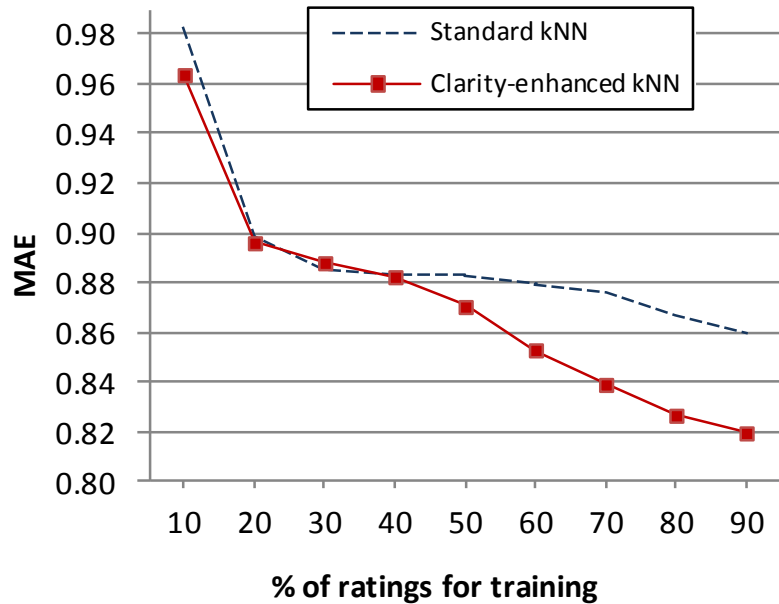
We have defined several performance predictors  
based on such signals

# Application to dynamic recommender strategies based on the expected performance

⇒ Dynamic hybrid recommendation

⇒ Dynamic neighbor selection in kNN

# Some results



- Good predictive power
- Dynamic recommenders outperform static ones

Predictor	CBF	IB	TF-L1	TF-L2	UB	Median	Mean
<b>ItemSimple</b>	0.257	0.146	0.521	0.564	0.491	0.491	0.396
<b>ItemUser</b>	0.252	0.188	0.534	0.531	0.483	0.483	0.398
<b>RatUser</b>	0.234	0.182	0.507	0.516	0.469	0.469	0.382
<b>RatItem</b>	0.191	0.184	0.442	0.426	0.395	0.395	0.328
<b>IRUser</b>	0.171	-0.092	0.253	0.399	0.257	0.253	0.198
<b>IRItem</b>	0.218	0.152	0.453	0.416	0.372	0.372	0.322
<b>IRUserItem</b>	0.265	0.105	0.523	0.545	0.444	0.444	0.376

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