

Query Variation Performance Prediction for Systematic Reviews

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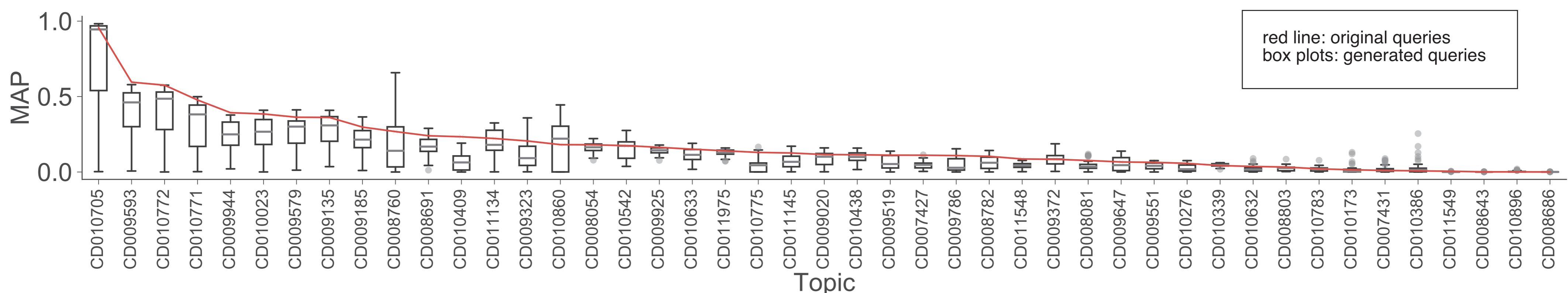
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QUERY VARIATIONS

- The reductions, expansions, and modifications of an original query
- Are there more effective query variations?
- Better queries = time and cost savings in systematic review screening process [1, 2]

RESEARCH QUESTION

Can query performance predictors be used to effectively predict query variations?



QVPP TASK

QPP:
Predicting the performance of queries across *different* topics

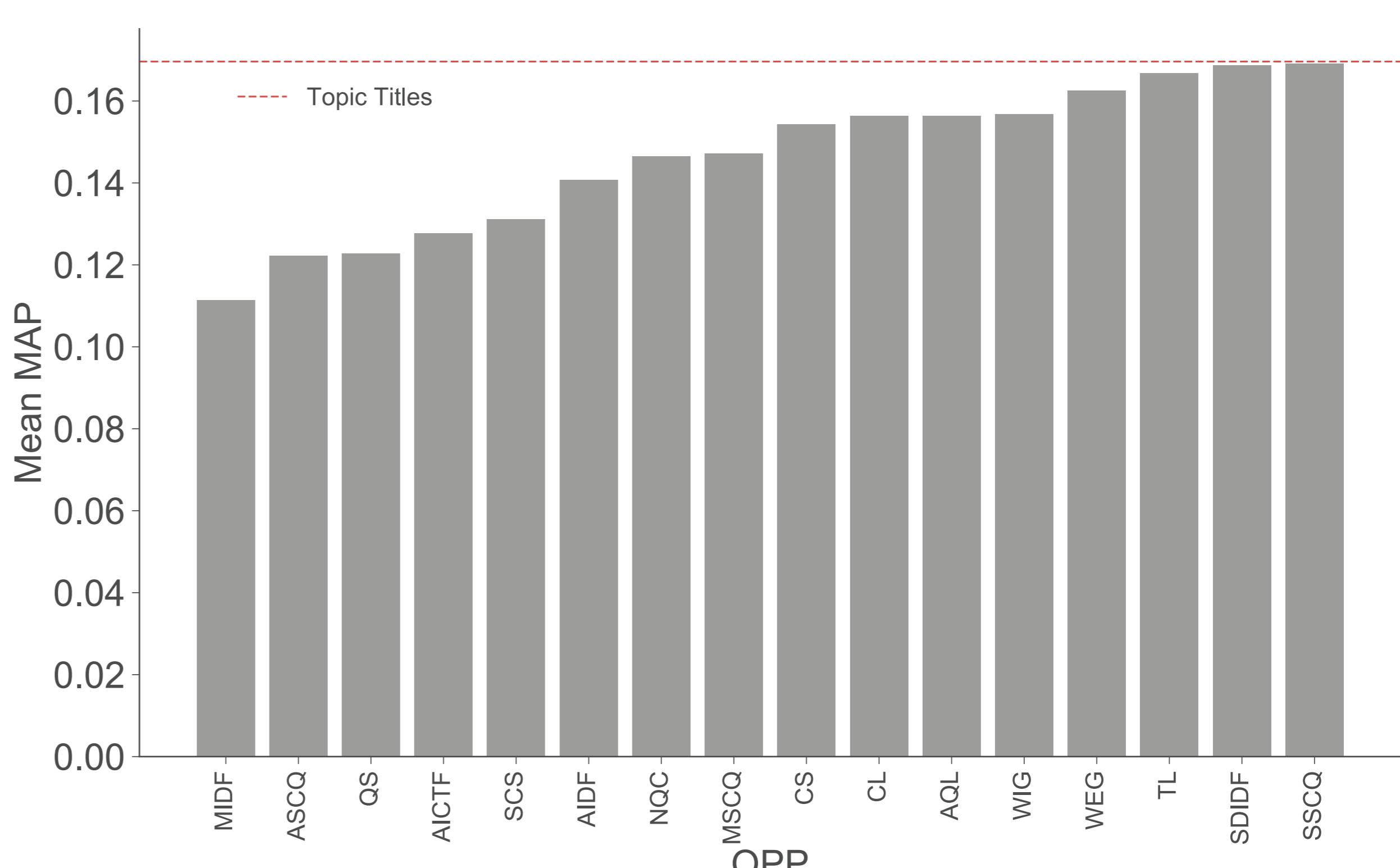
QVPP:
Predicting the performance of queries within the *same* topic

FINDINGS

- Of the 16 QPPs explored, none were able to consistently predict better variations
- Simple QPPs performed well overall
- While more effective query variations exist, no one predictor was able to consistently identify them

FUTURE WORK

- Domain-specific QPPs that consider features about systematic reviews
- Adopt QPPs for the Boolean queries used in systematic reviews
- Explore the QVPP task outside the systematic review domain



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[1] S. Karimi, S. Pohl, F. Scholer, L. Cavedon, and J. Zobel. 2010. Boolean versus ranked querying for biomedical systematic reviews. *BMC* (2010).

[2] I. Shemilt, N. Khan, S. Park, and J. Thomas. 2016. Use of cost-effectiveness analysis to compare the efficiency of study identification methods in systematic reviews. *Syst. Rev.* (2016).



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