How does Feedback Signal Quality Impact the Effectiveness of Pseudo Relevance Feedback for Passage Retrieval?

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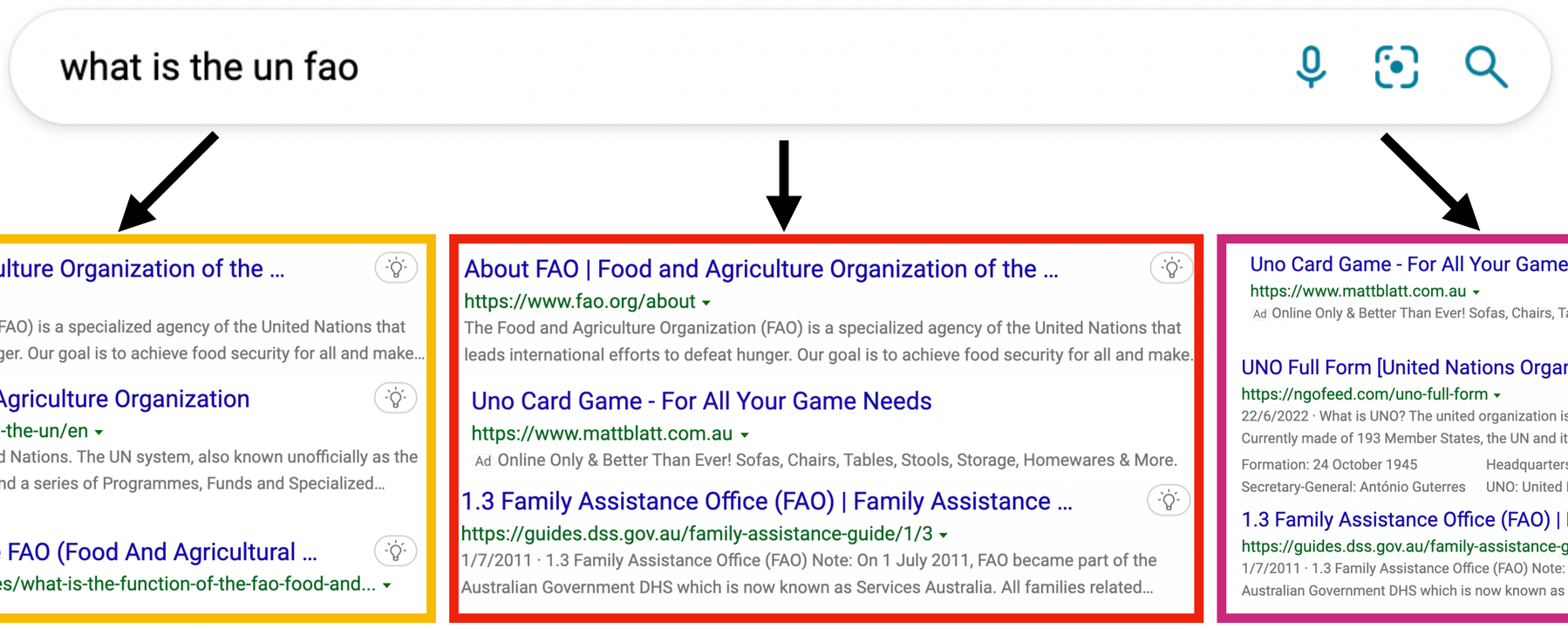
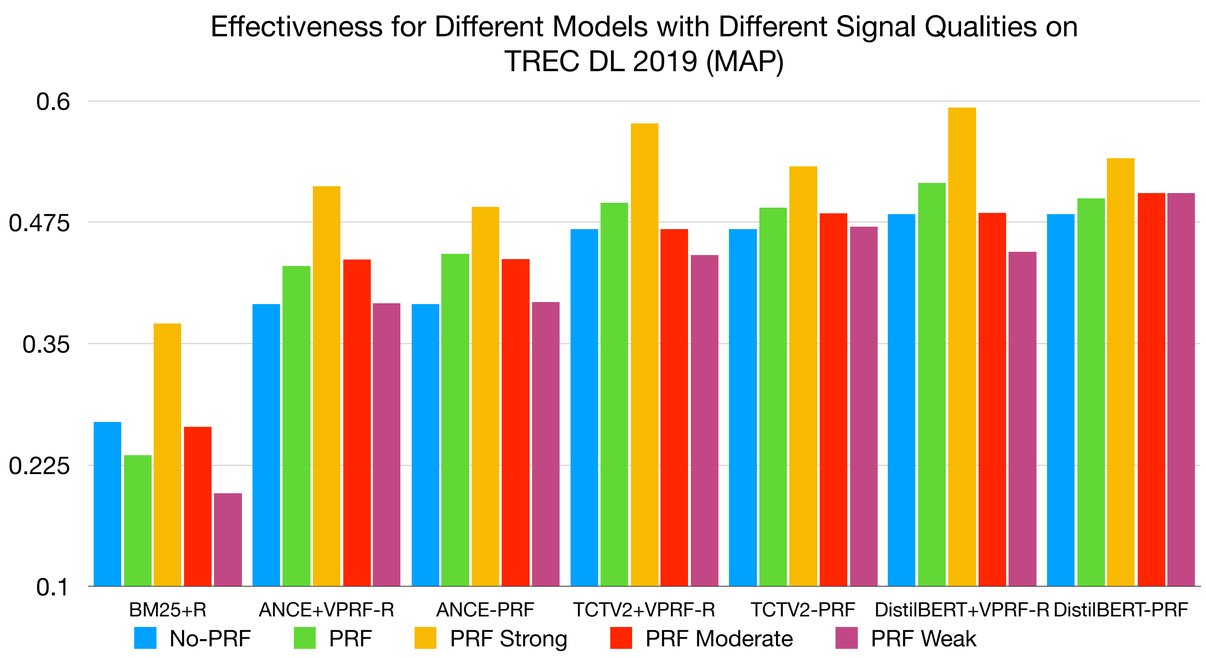


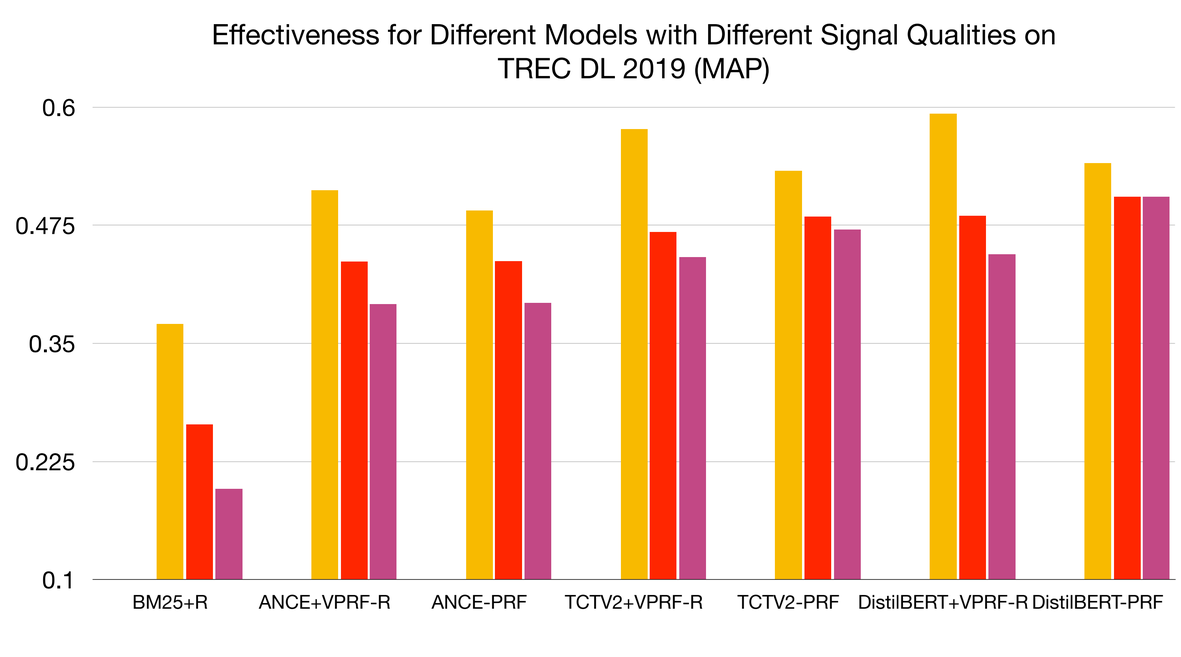
Pseudo Relevance Feedback

We control the quality of the relevance signal passed to PRF, and study:
1. How do PRF methods respond to relevance signals of differing quality?
2. What signal representation better across different signal qualities: dense or sparse?

1. Signal Quality & PRF



2. Signal Quality & Representations



Take Aways

Stability: differs from one PRF method to another.
Learnt PRF methods more resilient to weak signals than not-learnt methods.

Representations: dense representations are better than bag-of-words representations

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This research is funded by the Grain Research and Development Corporation (GRDC), project AgAsk (UOQ2003-009RTX).