1. The Goal
Predict the user’s query given a very short input prefix

2. MostPopularCompletion
State-of-the-art
Suggest most popular queries
Problem: users queries are power law distributed → long tail of unpopular queries
MostPopular is likely to mis-predict when given a small number of keystrokes

3. Context-Sensitive Approach
Observation: user context hints to her intent
Contextual resources:
visited web pages, previous queries, user tweets, and more

4. NearestCompletion
Focuses on recent queries context
Suggests completions most similar to the user’s recent queries
An efficient Nearest Neighbors Search using a standard search library

5. Query Similarity Measure

6. HybridCompletion
Context is not always relevant → combine context-similar completions with most popular completions
hybscore(q) = α · Zsimscore(q) + (1 − α) · Zpopscore(q)

7. Results over real user data

In proceedings of WWW’11
Ziv Bar-Yossef and Naama Kraus,
Context-sensitive query auto-completion,
In WWW, pages 107–116, 2011