

Probability of Relevance

- Three random variables
 - Query Q
 - Document D
 - Relevance $R \in \{0,1\}$
- Goal: rank D based on $P(R=1 | Q,D)$
 - Evaluate $P(R=1 | Q,D)$
 - Actually, only need to compare $P(R=1 | Q,D_1)$ with $P(R=1 | Q,D_2)$, i.e., rank documents
- Several different ways to refine $P(R=1 | Q,D)$