

■ Goal of an "Internet search service"

- ① Alice searches with a phrase P
- ② Search engine finds a large set of ^{scattered} documents D that contain P or are relevant to P .

$$D = \{ d_1, d_2, d_3, \dots, d_{203} \}$$

- ③ Search engine rank orders D w.r.t. **relevance**

$$D = \{ d_{17}, d_{165}, d_{23}, d_{29}, \dots, d_{12} \}$$

Note: This ranking could vary based on who is searching.

History professor searching: The history of Nike
CEO of a company searching: The history of Nike

- ④ show results of search fast (within seconds)