- Items $i_1 \ldots i_n \in \mathcal{I}$
- pages are of size k
- Positions $p_i \ldots p_k \in \mathcal{P}$
- $a : \mathcal{I} \to [0, 1]$ maps items to their attractivity
- $p : \mathcal{P} \to [0, 1]$ maps positions to their click probability
- Given a search results page $s := i_{s_1} \ldots i_{s_k}$ and random numbers $0 \leq z_i \leq 1$, the user selects the item i_{s_i} where $a(i_{s_i}) + p(i) + z_i$ is maximal.