$$sim(q, d) := \frac{q}{\|q\|} \cdot \frac{d}{a\|d\| + (1-a)piv},$$

$$0 < a < 1;\ piv \text{ determined empirically*}$$

$$\approx \frac{q}{\|q\|} \cdot \frac{d}{au_d + (1-a)piv},$$

$$u_d \text{ is \# unique terms in } d$$