Instagram Post

Dictionaries/Ontology

Caption

Here is my outfit 💃 of the day #streetstyle #me #canada #goals #chic #denim 👜

Tags

Zalando user1 user2

Comments

I love the bag! Is it Gucci? 😍 👜 ❤️

I #want the #baaag 🙌

Wow! The #jeans 👖 👌

Brands

Items

Patterns

Material

Styles

Distant Supervision h

Syntactic Similarity s_1

$lev_{w_1,w_2}(|w_1|, |w_2|)$

ProBase

$$\vec{r_1} = \alpha \vec{s_1} + \gamma h + \eta f$$
$$\vec{r_2} = \beta \vec{s_2} + \gamma h + \eta f$$

Semantic Similarity s_2

Word frequency f

$f(w_i)$

$$\begin{pmatrix} w_{1,1} & \cdots & w_{1,n} \\ \vdots & \ddots & \vdots \\ w_{n,1} & \cdots & w_{n,n} \end{pmatrix}$$

Word Vectors

Noisy labels $\vec{r_1} \frown \vec{r_2}$

Items: $\langle (bag, 0.63), (jeans, 0.3), (top, 0.1) \rangle$

Brands: $\langle (Gucci, 0.8), (Zalando, 0.3) \rangle$

Material: $\langle (Denim, 1.0) \rangle$

$\vdots$