

Home Depot

I am thinking!!

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The data:

- ▶ Description for each product: *product_descriptions.csv*
- ▶ Additional information for some products: *attributes.csv*
- ▶ *train.csv* and *test.csv*

The goal:

- ▶ Each test case consists of:
 - ▶ product_uid
 - ▶ product title
 - ▶ search query
- ▶ Calculate relevance for each test case:
 - ▶ 1 - Irrelevant.
 - ▶ 2 - Partially or somewhat relevant.
 - ▶ 3 - Perfect match.

$$lev_{a,b}(i,j) = \begin{cases} \max(i,j) & \text{if } \min(i,j) = 0 \\ \min \begin{cases} lev_{a,b}(i-1,j) + 1 \\ lev_{a,b}(i,j-1) + 1 \\ lev_{a,b}(i-1,j-1) + 1_{(a_i \neq b_j)} \end{cases} & \text{otherwise} \end{cases}$$



Distance between *kitten* and *sitting* costs 3:

- ▶ kitten → sitten (substitution of “s” for “k”)
- ▶ sitten → sittin (substitution of “i” for “e”)
- ▶ sittin → sitting (insertion of “g” at the end)

The Approach:

- ▶ Compare test/training search queries with Levehnstein.
- ▶ Use relevance of closest search query.

The Future:

- ▶ Include brand information.
- ▶ Implement SVM/SVR (“Do some actual machine learning”).

The Problem:

- ▶ Lots of messy data (typos, inconsistency, etc).
- ▶ SVM/SVR requires numbers.

Current rank on Kaggle: 1464