

Search Result Improvement Using NLP

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Yichi Zhang

November 15, 2019

Search



Businesses may lose revenue significantly with irrelevant research results

Home Depot gives irrelevant result every 6.25 searches

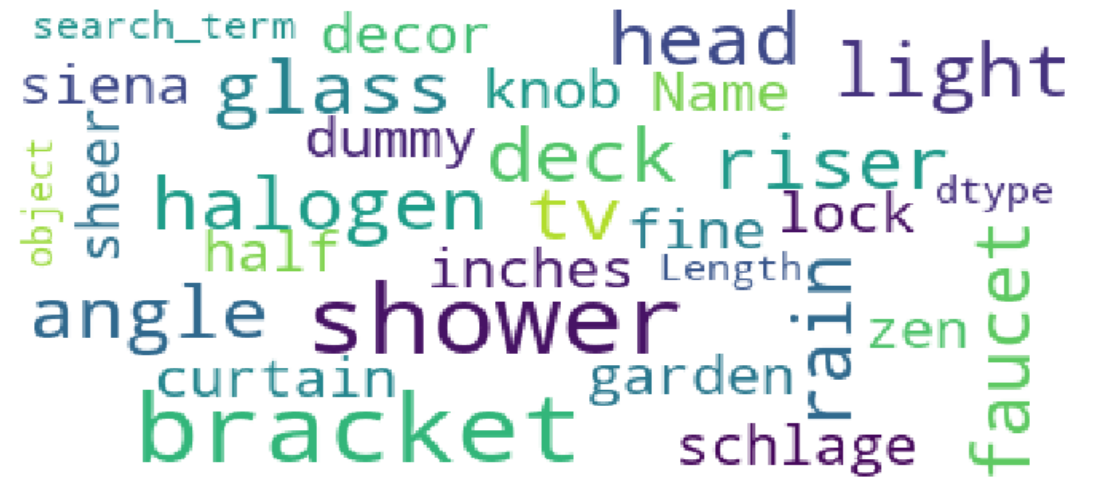
Product Names

VS

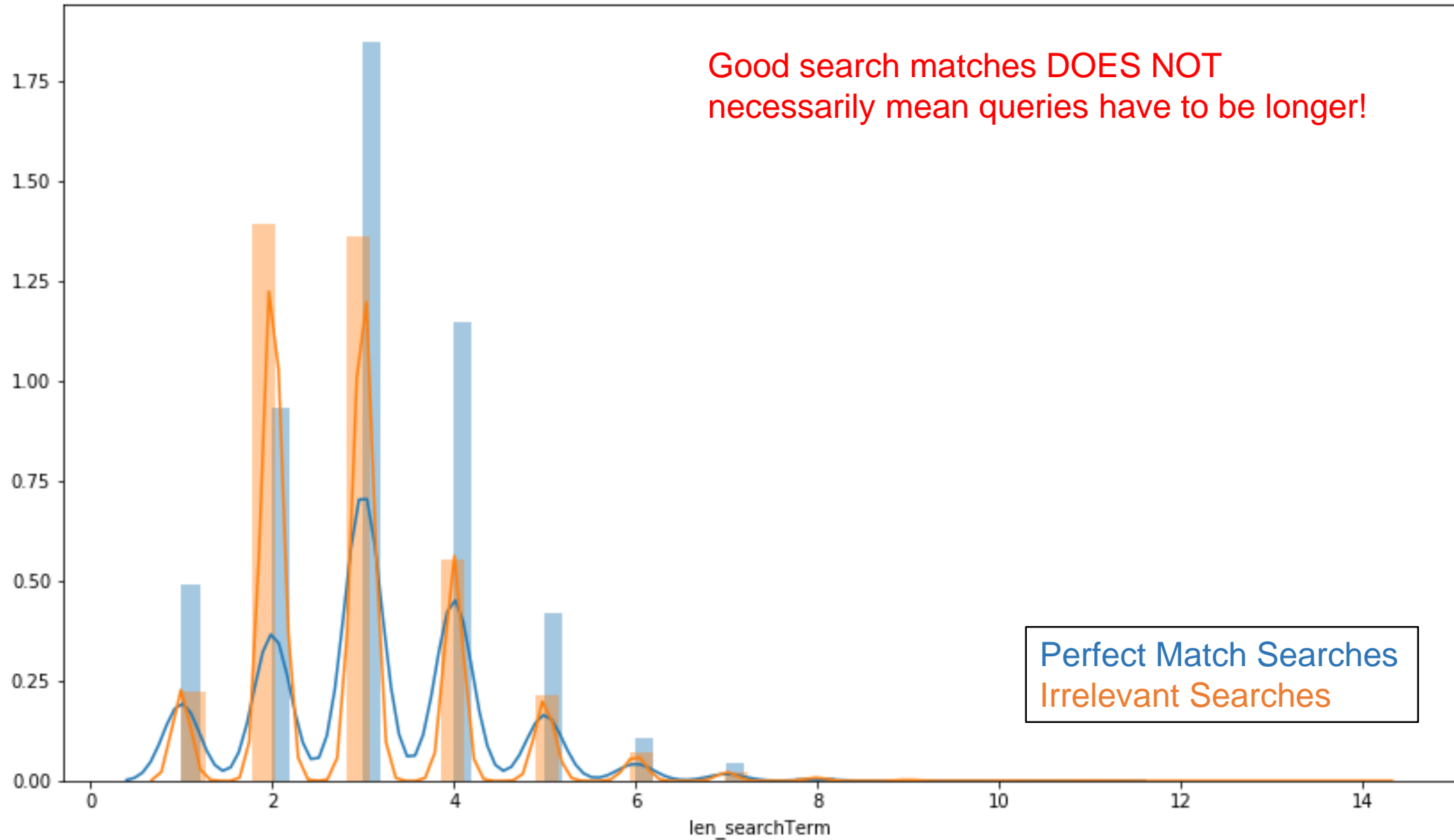
Top Searched Words



Brand Quality



Usage Function



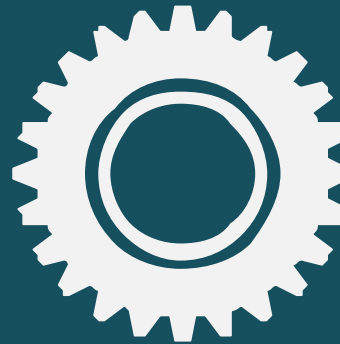
Search Result Improvement Workflow



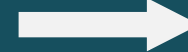
Product Title
+
Product Description
+
Search Query



Pre-Process with
Feature Extraction,
NLTK, CountVector,
and TF-IDF



LSA
NMF
(w/ regularization)
✓
LDA
✓
CorEx



Topic Modeling
Recommend Search Terms

Product Categories

Power & Tools Accessories	heavy, duty, steel, lb, storage, coated, construction, durable, hold, feature
Flooring	ground, length, multiple, grade, width, tile, online, weight, trim, commercial
Kitchen appliances --Ranges	color, resistant, dimension, clean, pattern, durable, stain, product, beautiful, style
Hardware/Door & Windows	hardware, door, style, installation, design, cabinet, construction, solid, faucet
Paint	proposition, california, resident, information, paint, sq, surface, wood, cover, color
Plumbing	pressure, water, flow, performance, high, maximum, standard, designed, life, construction
Hardware	screw, steel, listed, construction, ul, pack, application, proposition
Lighting -- Light Bulbs	bulb, light, watt, lighting, led, energy, white, glass, hour, listed
Storage & Organization	plan, protection, control, power, speed, volt, feature, ft, temperature, air

Top Searched Categories

Door	door, tile, interior, floor, glass, outdoor, air, doors, pipe, fan
Shower	shower, tub, bronze, kit, base, cabinet, drill, plastic
Paint	paint, spray, exterior, set, bar
Faucet	faucet, kitchen, bath, trim
Light Bulb	light, led, bulb, lights, lighting, ceiling, wood, window, patio, pvc
Vanity	vanity, bathroom, inch, sink, white, double, black
Dewalt Saw	saw, dewalt, table, wall

Irrelevant Searched Categories

Plumbing Parts & Repair

inch, home, tool, toilet, hose, pipe, round, black, pvc, water

Cabinet Accessories

cabinet, steel, round, window, bathroom, filter, glass, kitchen, outdoor, tool

Shower Hoses

tile, replacement, tub, vinyl, bay, parts, shower, floor, hose, wall

Drain Grates

water, pipe, cover, air , ceiling, panel, drain, stove , plastic, black

Outdoor Wall Lighting

metal, floor, battery, post, patio, grill, cover, outdoor, light, window

Landscape Fabric & Supplies

wood, kit, glass, lights, electric, fence, cable, garden, screen , cover

Interior Doors

kitchen, doors, bar, table, garage, range, door, patio, glass, wood

Paint Liners & Grids

paint, plastic, storage, saw, board, ft, foot, heater, parts

Ceiling Fans

white , wire, black , gas, pvc , fan , outdoor, wood, door, ceiling

Patio Heater Cover

door , wall, outdoor, shower, stove, gas, bathroom, heater, inch, cover



Home Depot Project

This Site Is Only For Project Visual Purpose. Not Selling Any Products Carried by Home Depot.



Enigma-X 56 to 60 in. x 76 in.
Frameless Sliding Shower Door in
Brushed Stainles

~~\$951.30~~ \$770.55



FLEXiO 3000 HVLP Paint Sprayer

\$163.93



Market Single-Handle Pull-Down
Kitchen Faucet

\$99.00



60W Equivalent Daylight (5000K) A19
Dimmable Exceptional Light Quality
LED Light

\$4.36



FLEXVOLT 60-Volt MAX Lithium-Ion
Cordless Brushless 7-1/4 in.

\$329.00



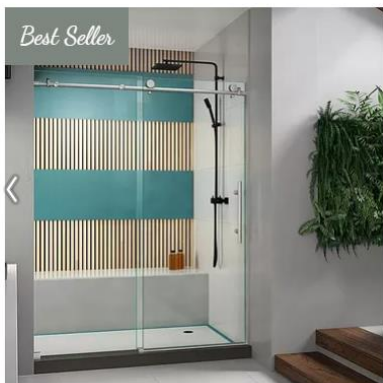
Woodbrook 31 in. W x 19 in. D Bath
Vanity in White Washed Oak with
Cultured Marb

~~\$349.00~~ \$247.79



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We Think You Mean:

bamboo plant

bamboo flooring

bamboo fencing

You Might Look For:

bamboo pole

bamboo faucet



Pyramid Bamboo

\$30.66



<https://www.homedepot.com/p/Costa-Farms-Medium-Lucky-Bamboo-Flower-Braid-in-4-5->

\$29.94



Lucky Bamboo Weave Braid in 5.5 in. Galileo White Square Ceramic

\$26.38



6 ft. H x 8 ft. W x 1 in. D Natural Rolled Bamboo Fence Panel

\$138.59

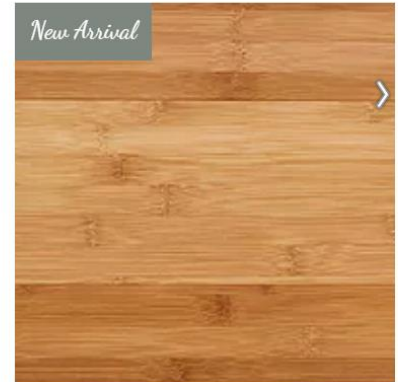
Best Seller



6 ft. H x 16 ft. W Natural Reed Fencing

\$26.00

New Arrival



Horizontal Toast 5/8 in. T x 5 in. W x 38.59 in. L Solid Bamboo Flooring(24.12 s

\$52.00

Thank You !

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