



DOG TOY Recommender

A recommendation
system for your dog for
toys from Chewy.com

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General Assembly
October 2020

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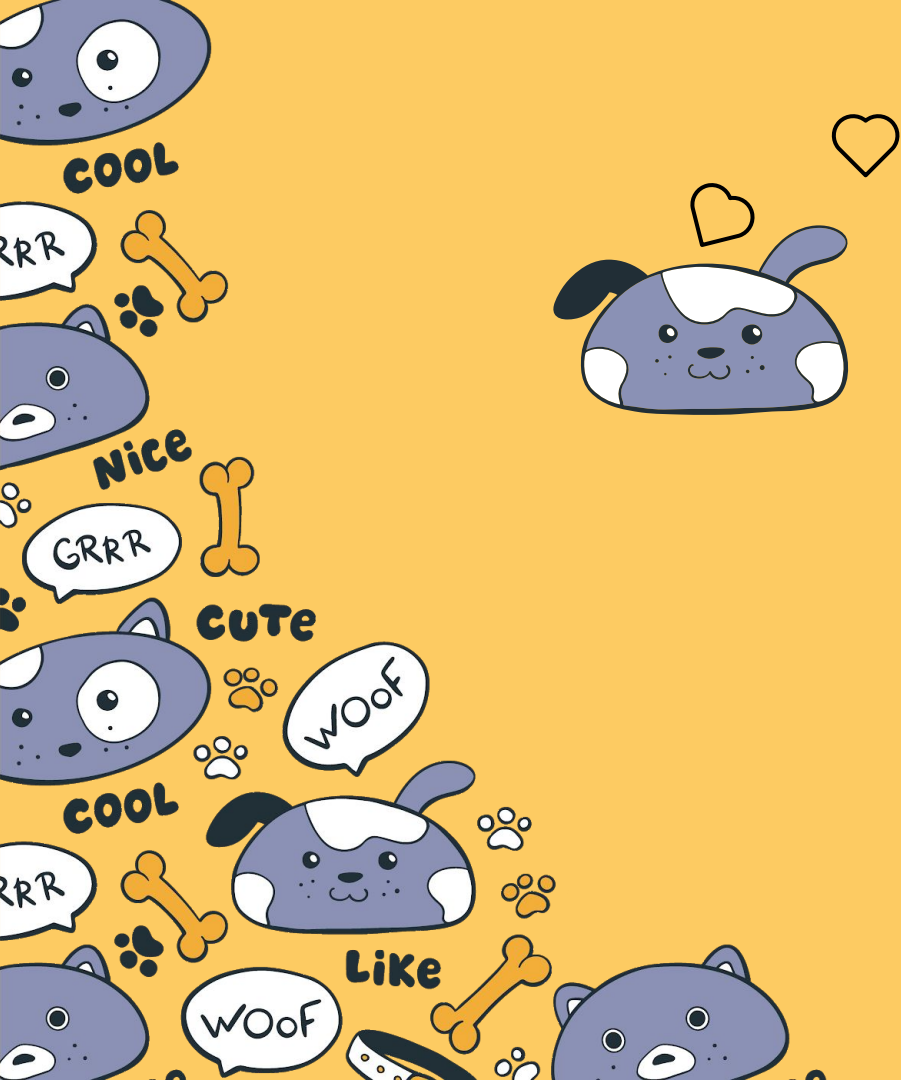




1



PROBLEM STATEMENT



Based off the reviews, descriptions and key benefits of dog toys, and a person's description of their dog's general personality, I will create a recommendation system that will suggest ten dog toys that the dog might enjoy based off the similarity in what was written and the text provided about each toy.

2 DATA





DATA COLLECTION PROCESS



[CHEWY.COM](https://www.chewy.com)

Decided to
scrape the dogs
toys from here.



DATA COLLECTION PROCESS



CHEWY.COM

Decided to
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toys from here.

SCRAPING

Used Selenium
and BeautifulSoup
to scrape.

DATA COLLECTION PROCESS



CHEWY.COM

Decided to scrape the dogs toys from here.

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Used Selenium and BeautifulSoup to scrape.

CLEANING

Removed unnecessary characters from columns.

DATA COLLECTION PROCESS



CHEWY.COM

Decided to scrape the dogs toys from here.

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Used Selenium and BeautifulSoup to scrape.

CLEANING

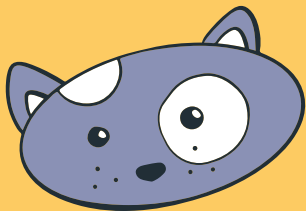
Removed unnecessary characters from columns.

TOKENIZED

Broke up text into words and removed common words.

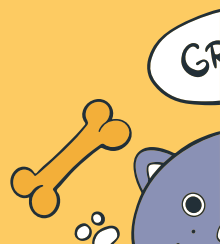


preprocessing



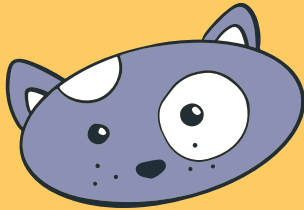
combined column

Combined text from
description, key
benefits and reviews
into one column.





preprocessing



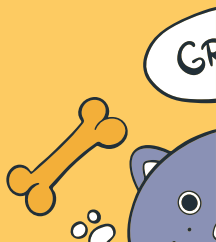
combined column

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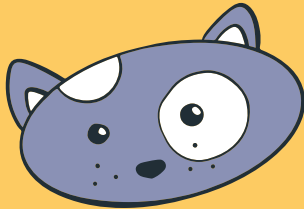
vectorized

Used spaCy to create
vectors of each word.





preprocessing



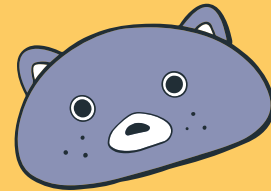
COMBINED COLUMN

Combined text from
description, key
benefits and reviews
into one column.



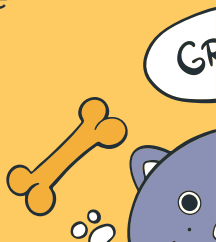
VECTORIZED

Used spaCy to create
vectors of each word.



Average vectors

Calculated the average
vector for each toy to
compare.

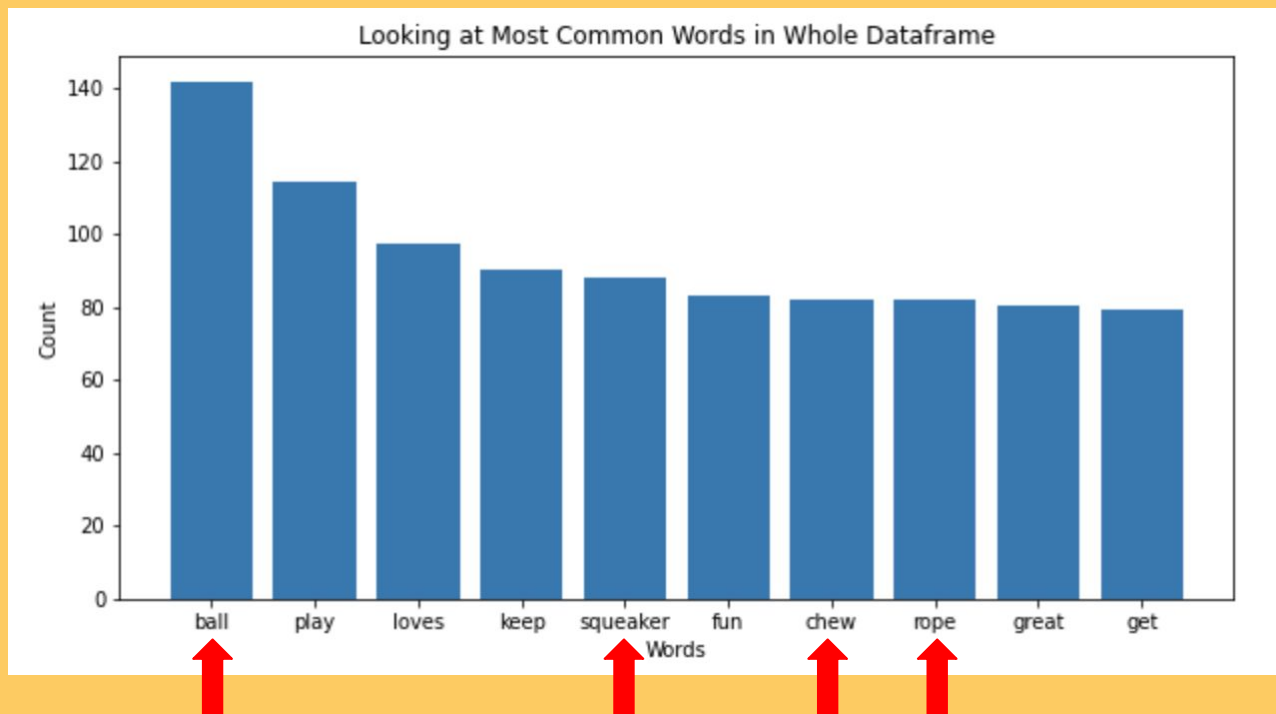




commons words



Whole Dataframe

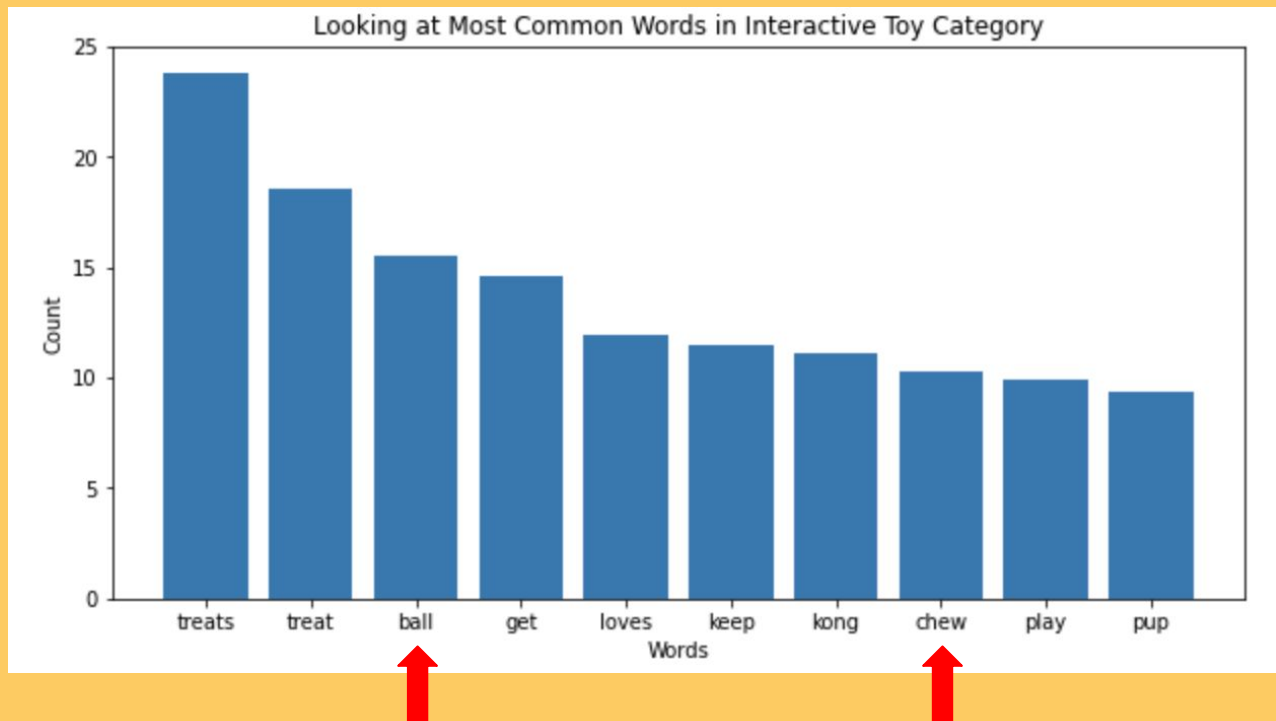




commons words



Interactive Toys

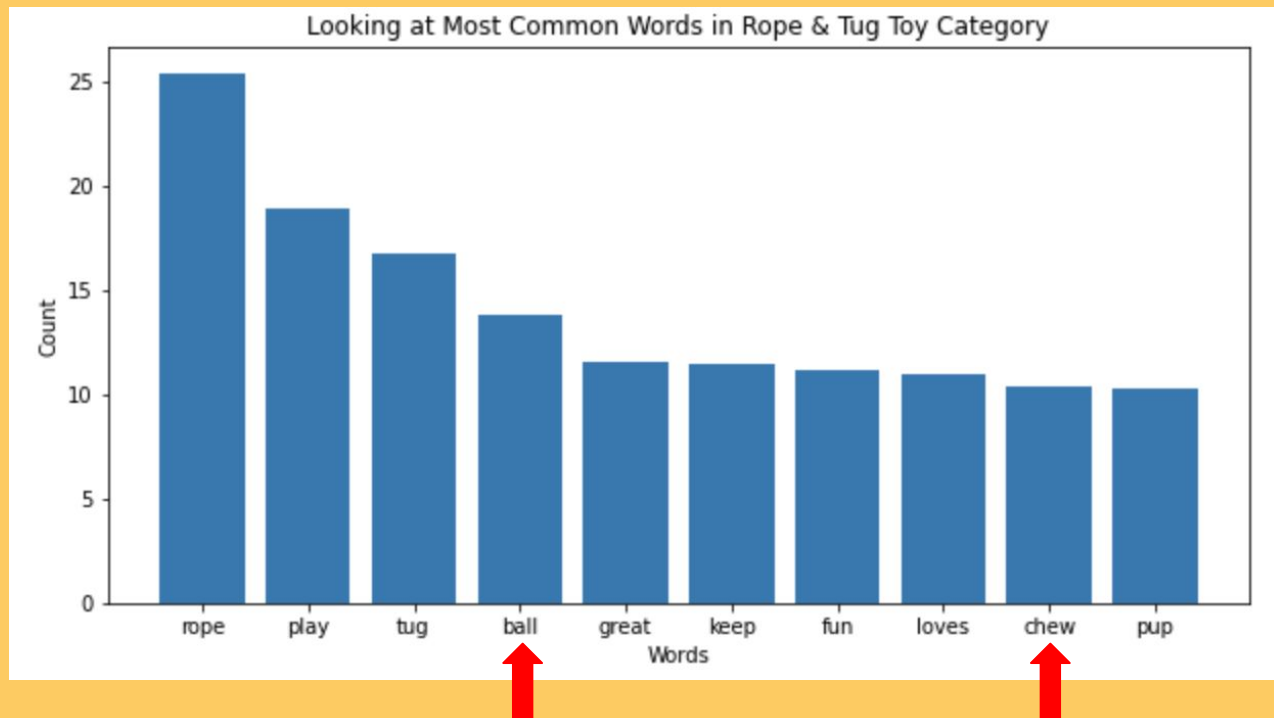




commons words

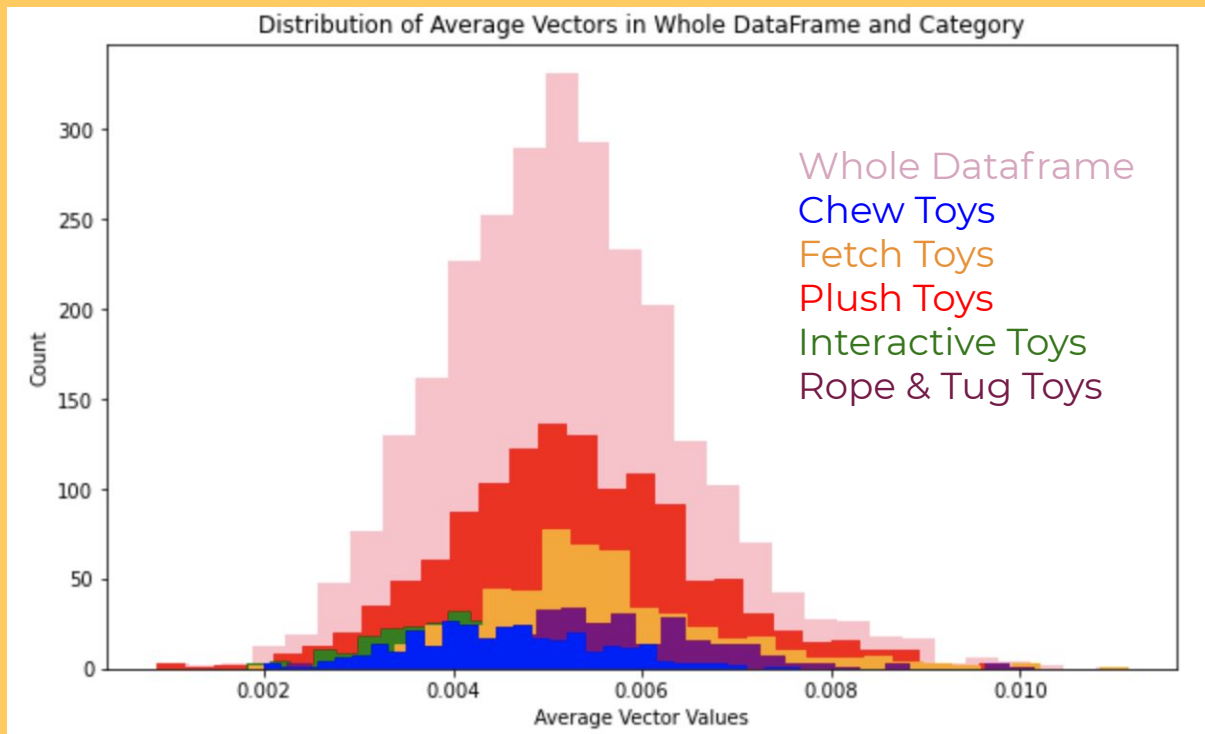


Rope & Tug Toys



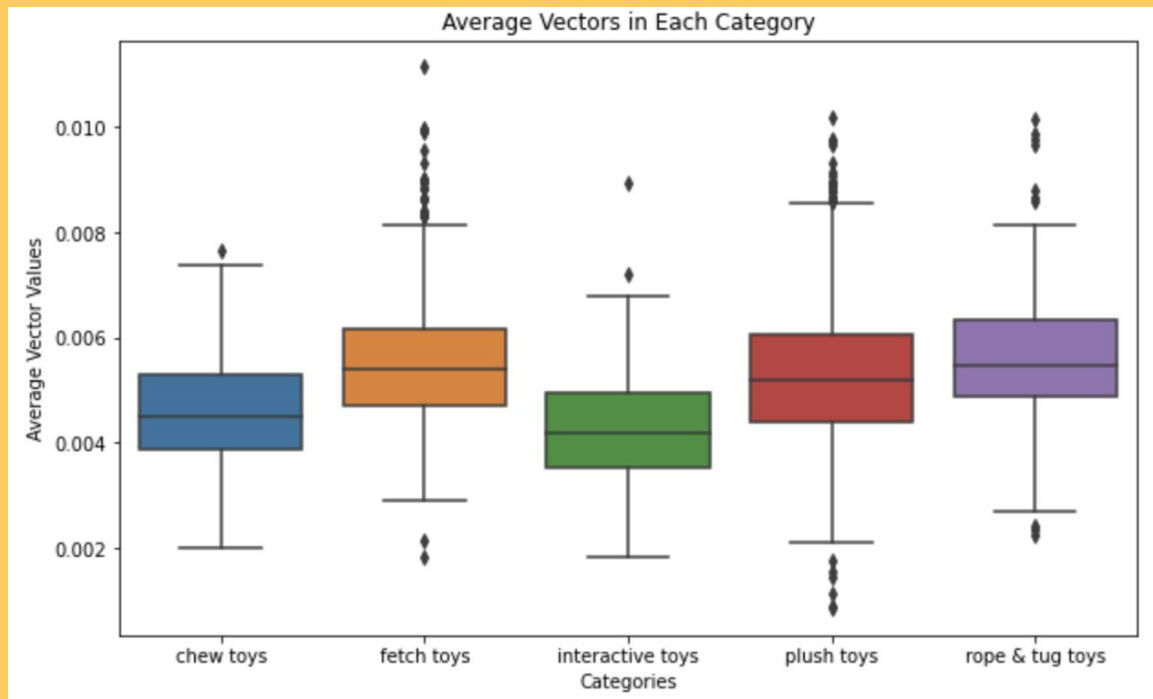
VECTOR DISTRIBUTIONS

COMPARED WITH WHOLE DATAFRAME



VECTOR DISTRIBUTIONS

AND BY CATEGORY





3



DOG TOY
recommender



×

Select an Option

Recommendation System ▾

The System Itself

To use this system you will need to describe your dog's personality and some things about him or her. If you need some help with what sort of things to add, use the questions listed below as reference.

Note: For better results, try to only include what your dog IS like rather than what IS NOT like. This will help the model to make better predictions.

Questions to Consider:

- What type of dog do you have?
- Is your dog a puppy, or older?
- Is your dog super energetic and playful or calmer?
- Would you say your dog is smarter than most dogs?
- Does your dog like to chase after toys, cuddle toys, or chew on them?
- Does your dog get pretty bored after playing with a toy for a bit?
- Does your dog already have an ideal toy that is their absolute favorite? (If yes, describe it.)

Insert your response here:

Let's Find Some toys!



HOW IT WORKS



INPUT

Dog owner inputs
paragraph describing
their dog.



HOW IT WORKS



INPUT

Dog owner inputs
paragraph describing
their dog.



TOKENIZE

spaCy breaks up the
text into words.



HOW IT WORKS



INPUT

Dog owner inputs paragraph describing their dog.



TOKENIZE

spaCy breaks up the text into words.



VECTORIZE

spaCy then creates a vectors based off the text.



HOW IT WORKS



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Dog owner inputs paragraph describing their dog.



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COMPARES

System compares input with the text of each dog toy.



HOW IT WORKS



INPUT

Dog owner inputs paragraph describing their dog.



TOKENIZE

spaCy breaks up the text into words.



VECTORIZE

spaCy then creates a vectors based off the text.



COMPARES

System compares input with the text of each dog toy.



SCORES

System then scores every toy from 0 to 1 based on similarity.



HOW IT WORKS



INPUT

Dog owner inputs paragraph describing their dog.



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spaCy breaks up the text into words.



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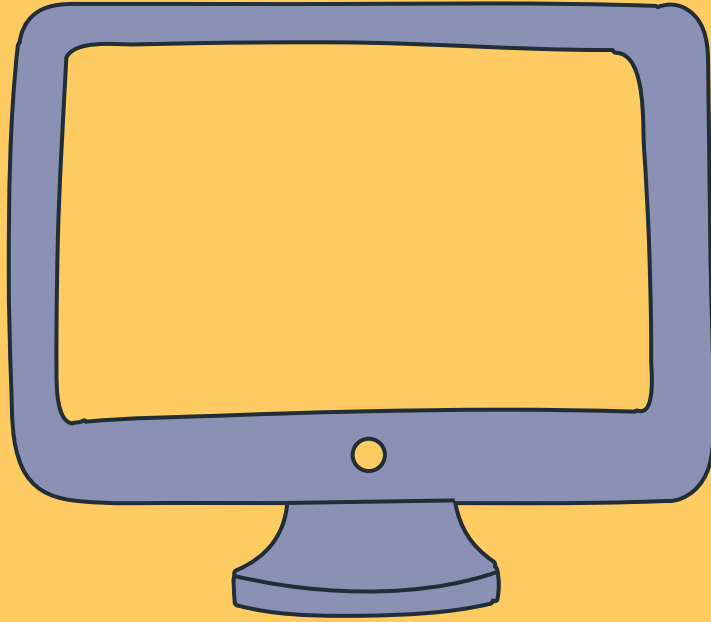
RANKS

Then each toy is ranked from highest to lowest score, and top 10 are provided to user.



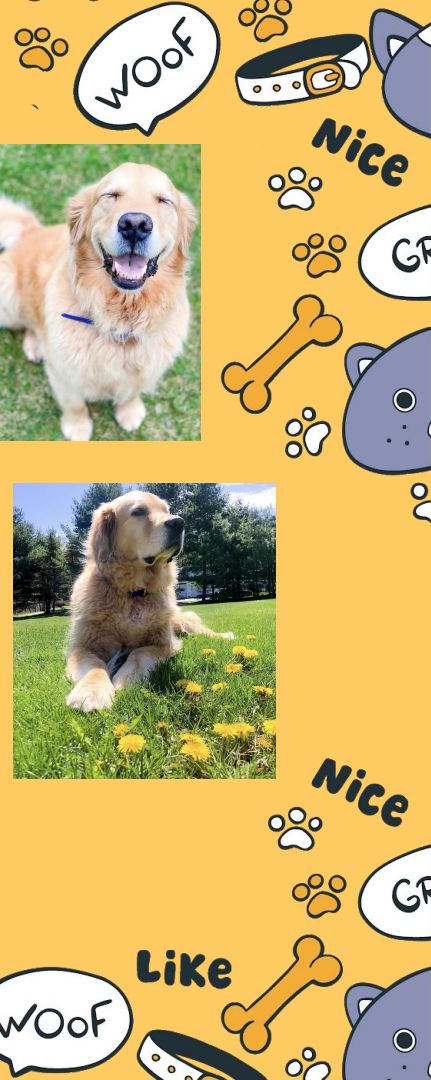
PUTTING THE SYSTEM TO TEST





COLBY

"Colby is 9-year-old golden retriever. For the most part, he is pretty mellow, but sometimes gets bursts of energy, especially when we go swimming and playing fetch in the pool with a ball. He also really like treats and is very food oriented. He will get bored with a toy after a bit. His favorite toy is probably a ball."





COLBY

"Colby is 9-year-old golden retriever. For the most part, he is pretty mellow, but sometimes gets bursts of energy, especially when we go swimming and playing fetch in the pool with a ball. He also really like treats and is very food oriented. He will get bored with a toy after a bit. His favorite toy is probably a ball."



“JW Pet iSqueak Bouncin’ Baseball
Dog Toy”
Score: 0.9814



COOL

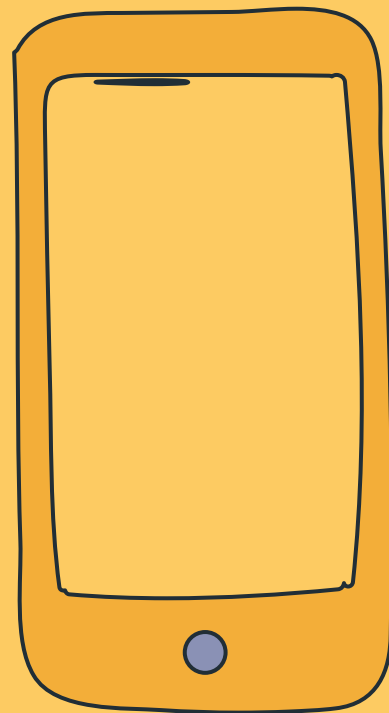


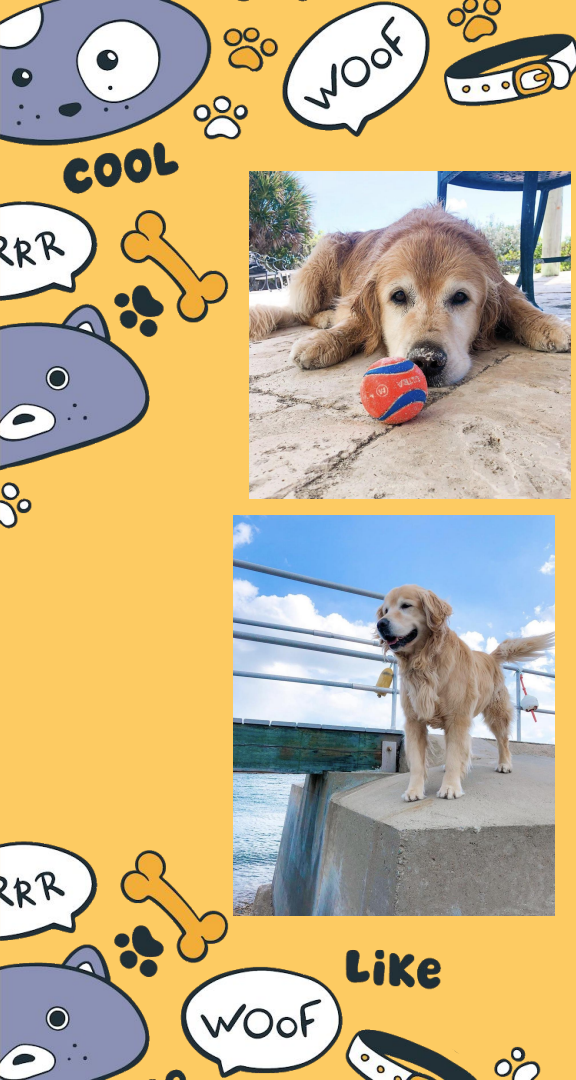
Like



MIDDY

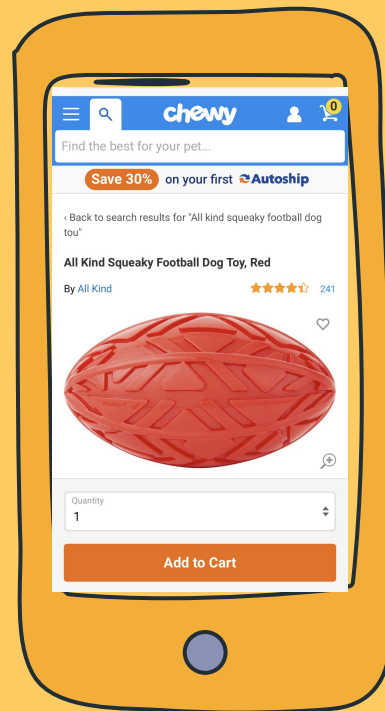
"Middy is an 8-year-old Golden Retriever. He is both an extremely active and mellow dog. He absolutely loves to chase things and play with us as well as swim after balls. He is also extremely destructive and destroys almost every toy we have. He loves squeaky toys and will chew and destroys them for hours."



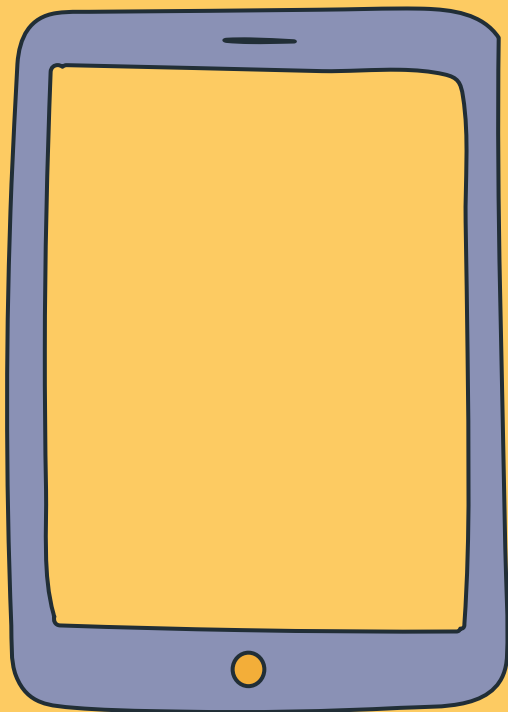


MIDDY

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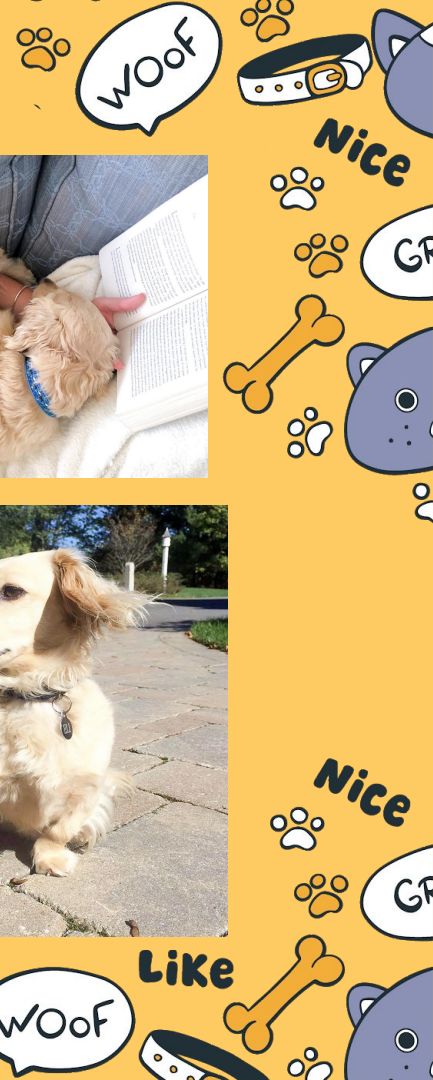
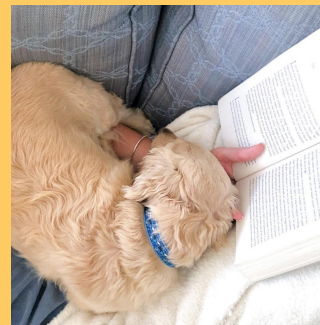


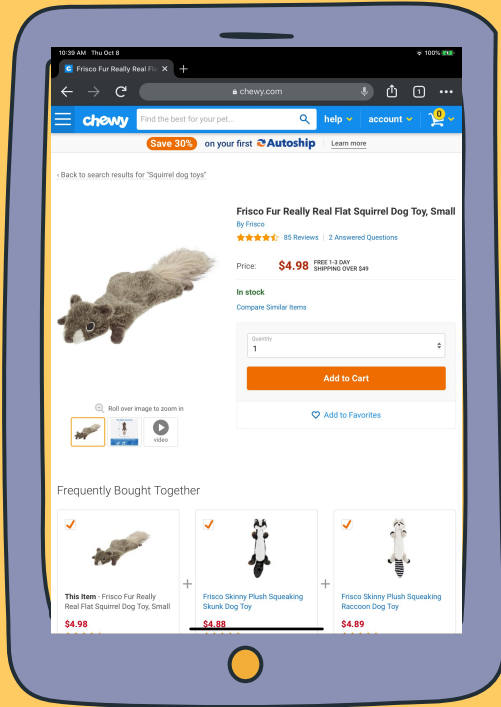
“All Kind Squeaky Football Dog Toy”
Score: 0.9755



ELI (or ratDOG)

"Eli is a 7-year-old miniature dachshund. She loves to run and chase balls and toys. But at the same time, she also enjoys snuggling with soft toys. She can also be quite destructive and loves to chew on things and lick. The second she sees something she chases and barks after it like a little guard dog"



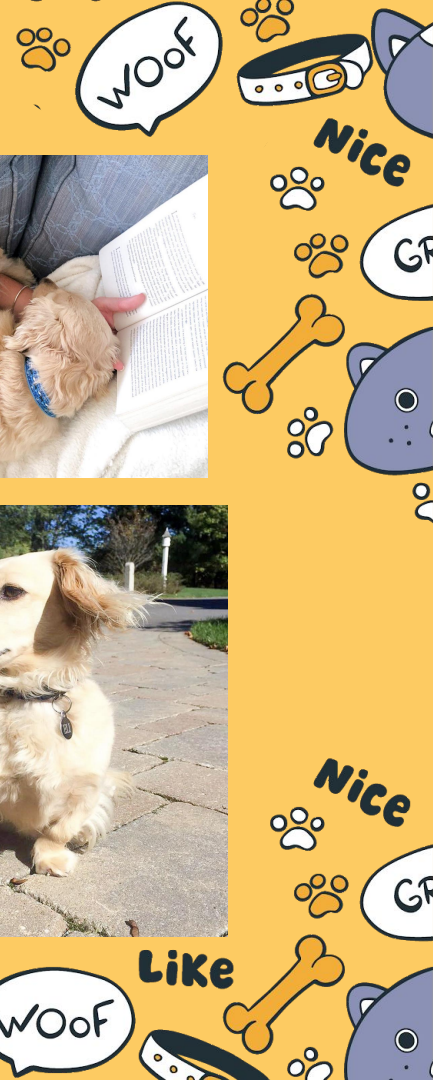


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“Frisco Fur Really Real Squirrel Dog Toy”
Score: 0.9758



4



CONCLUSIONS &
FUTURE STEPS





CONCLUSIONS

- Created a working system
- Created a web app for users
- Toys seem accurate based off my personal knowledge





CONCLUSIONS

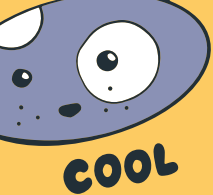
- Created a working system
- Created a web app for users
- Toys seem accurate based off my personal knowledge



FUTURE STEPS

- Work on web app
- Include more stores or more animals
- Scrape all reviews and conduct sentiment analysis
- Incorporate more features in system

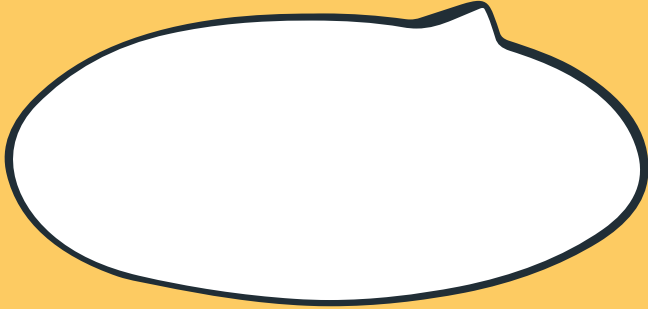




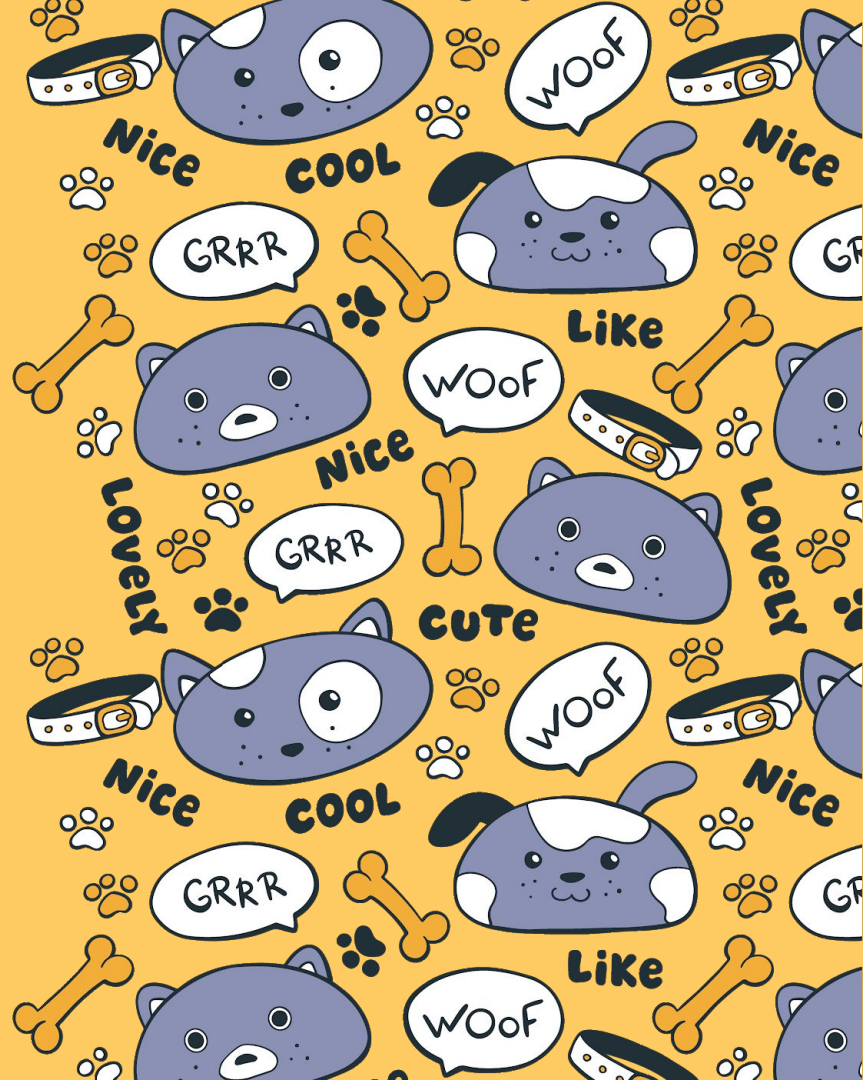
sources:

- <https://www.chewy.com/>
- <https://selenium-python.readthedocs.io/installation.html>
- <https://www.crummy.com/software/BeautifulSoup/bs4/doc/>
- <https://spacy.io/usage/spacy-101>
- <https://www.streamlit.io/>
- (More sources listed in repository README)

THANKS



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THANKS

Do you have any
questions?

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