Pet Analysis
Love Your Pet

Group 15

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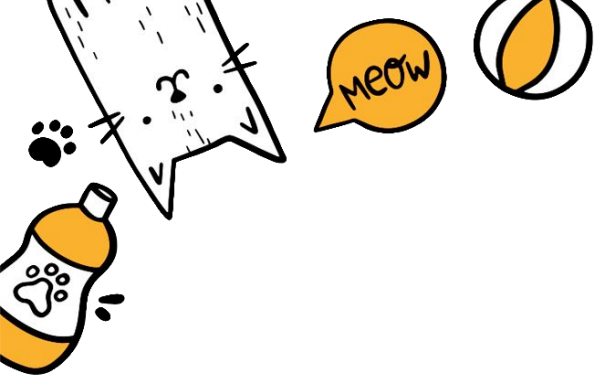
Motivation

Pets are great companions for humans, and make our lives colorful.

To create a better living environment for pets is one of goals in our group. And we are grateful for the opportunity to use scientific methods and data analysis to make their lives better.

We analyzed the data from Petfinder to provide support and guidance for pet adoption to make sure pets and human have long, happy lives together.



Dataset

01.

Where is the data from?

Petfinder API

02.

What's inside the dataset?

animals
breeds
characteristics
shelters info

03.

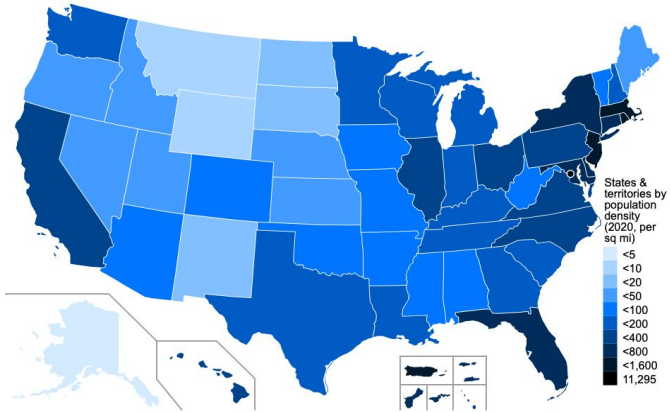
How many?

Dog: 150k
Cat: 79k
Total: 248k

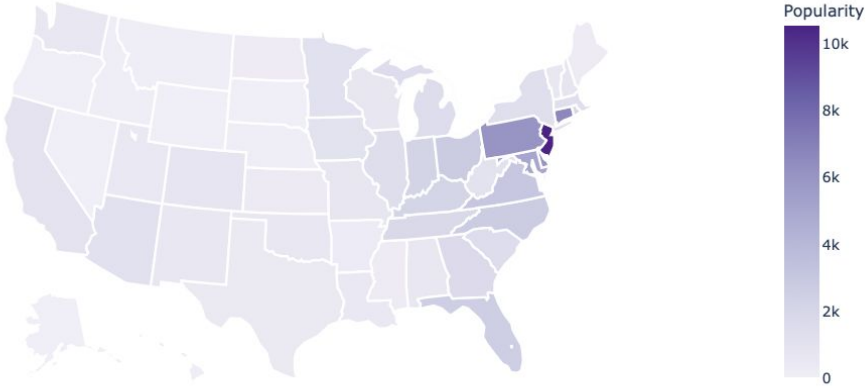
Cat distribution

Cat distribution related with population density

Human population Density[1]

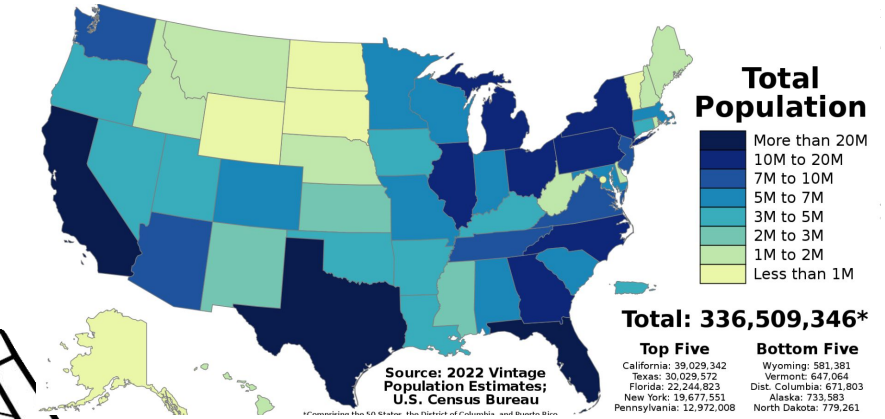


Cat population distribution

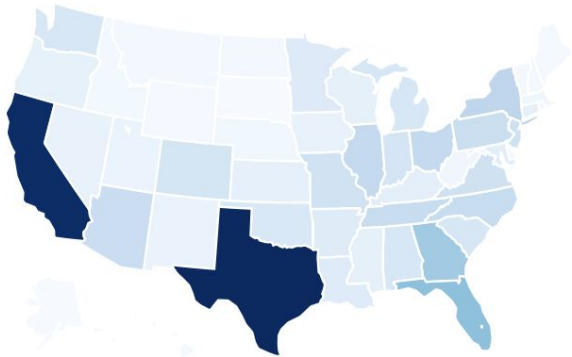


Dog distribution

Dog distribution related with total population



Human Total Population[2]



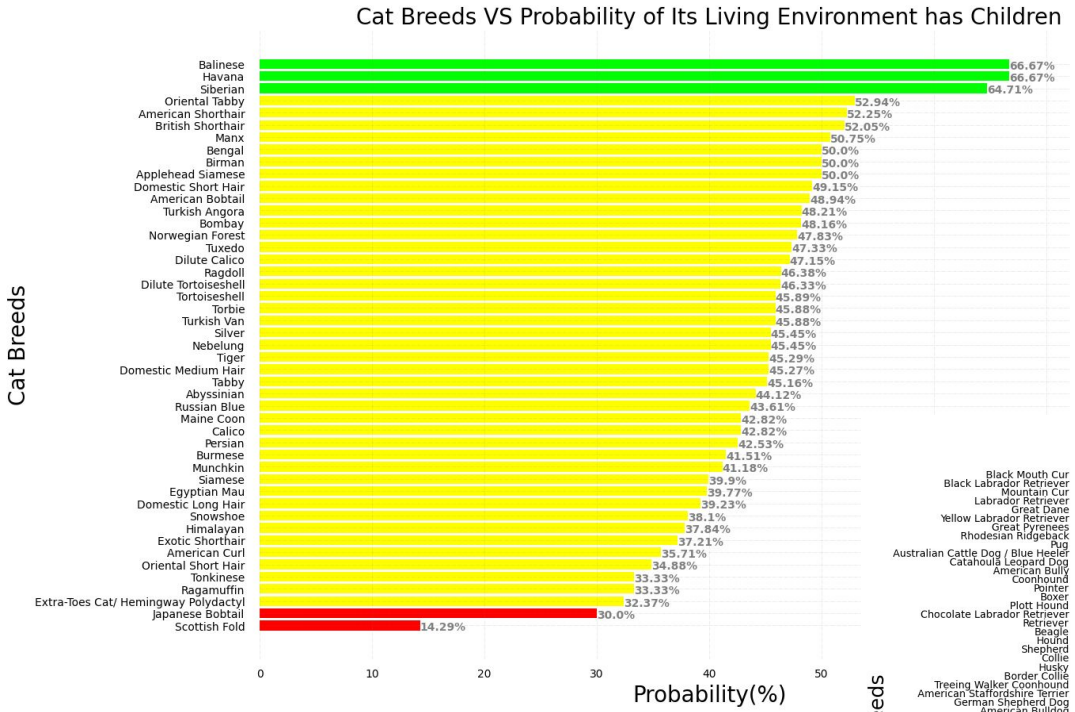
Dog Population Distribution

Pet and environment

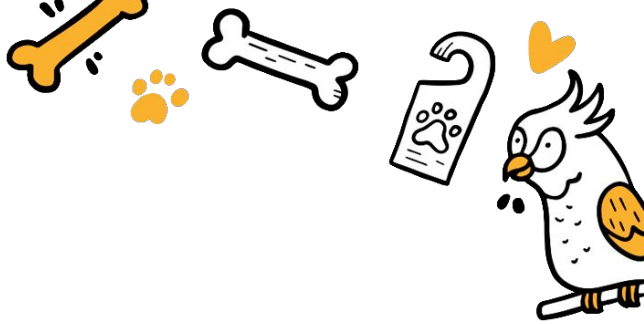
count the number of pets living in environments with children/dogs/cats

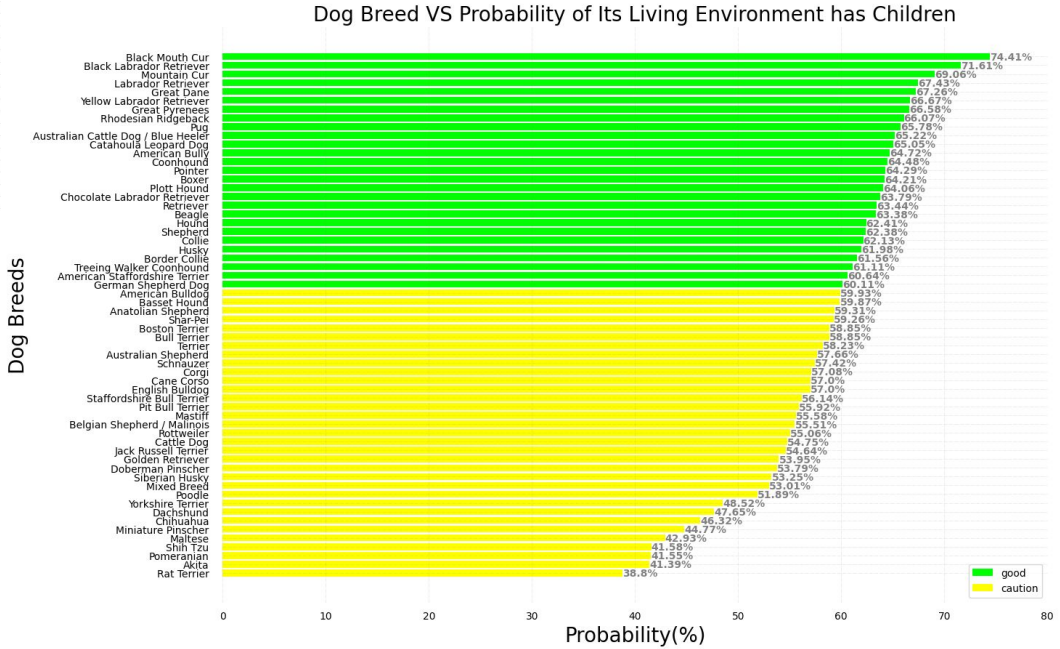
->

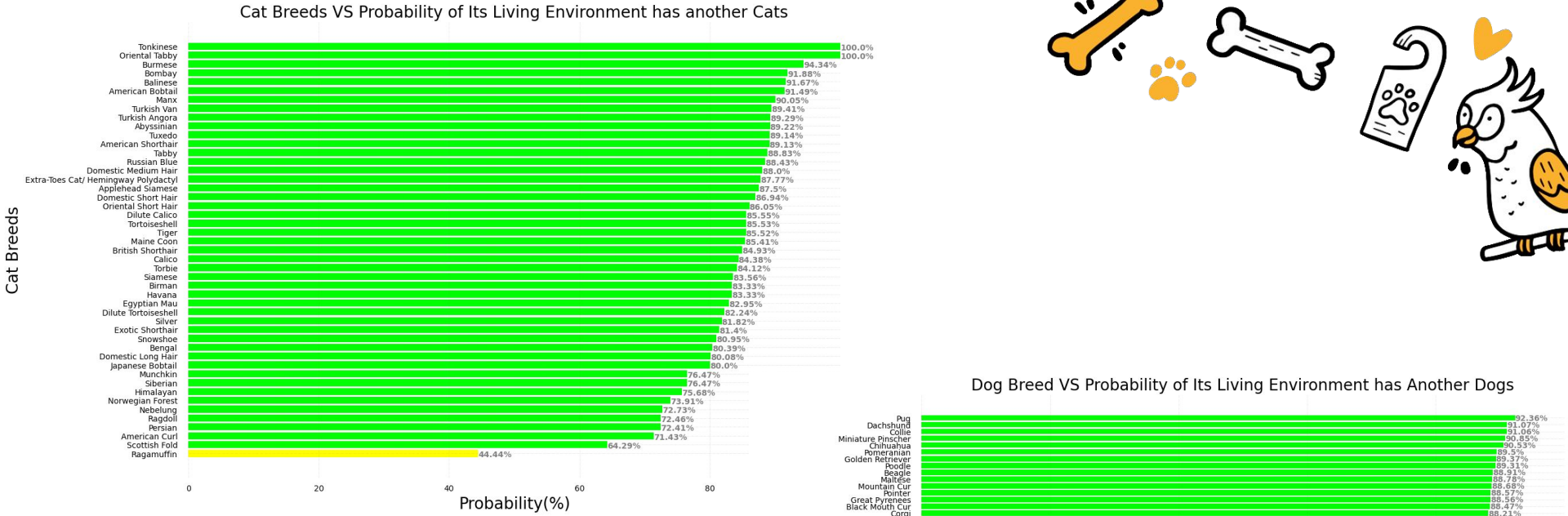
the probability that a certain breed is comfortable in certain living environment


Cat Breeds VS Probability of Its Living Environment has Children
Cat Breeds
Balinese 66.67%
Havana 66.67%
Siberian 64.71%
Oriental Tabby 52.94%
American Shorthair 52.25%
British Shorthair 52.05%
Manx 50.75%
Bengal 50.0%
Birman 50.0%
Applehead Siamese 50.0%
Domestic Short Hair 49.15%
American Bobtail 48.94%
Turkish Angora 48.21%
Bombay 48.16%
Norwegian Forest 47.83%
Tuxedo 47.33%
Dilute Calico 47.15%
Ragdoll 46.38%
Dilute Tortoiseshell 46.33%
Tortoiseshell 45.89%
Torbie 45.88%
Turkish Van 45.88%
Silver 45.45%
Nebelung 45.45%
Tiger 45.29%
Domestic Medium Hair 45.27%
Tabby 45.16%
Abyssinian 44.12%
Russian Blue 43.61%
Maine Coon 42.82%
Calico 42.82%
Persian 42.53%
Burmese 41.51%
Munchkin 41.18%
Siamese 39.9%
Egyptian Mau 39.77%
Domestic Long Hair 39.23%
Snowshoe 38.1%
Himalayan 37.84%
Exotic Shorthair 37.21%
American Curl 35.71%
Oriental Short Hair 34.88%
Tonkinese 33.33%
Ragamuffin 33.33%
Extra-Toes Cat/ Hemingway Polydactyl 32.37%
Japanese Bobtail 30.0%
Scottish Fold 14.29%
0
10
20
30
40
50
Probability(%)

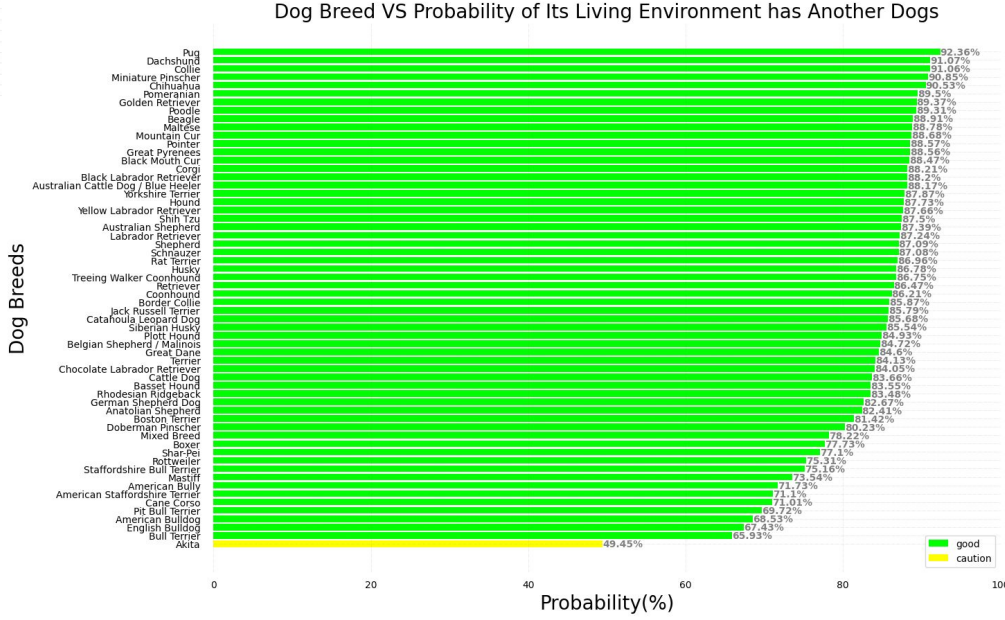
meow

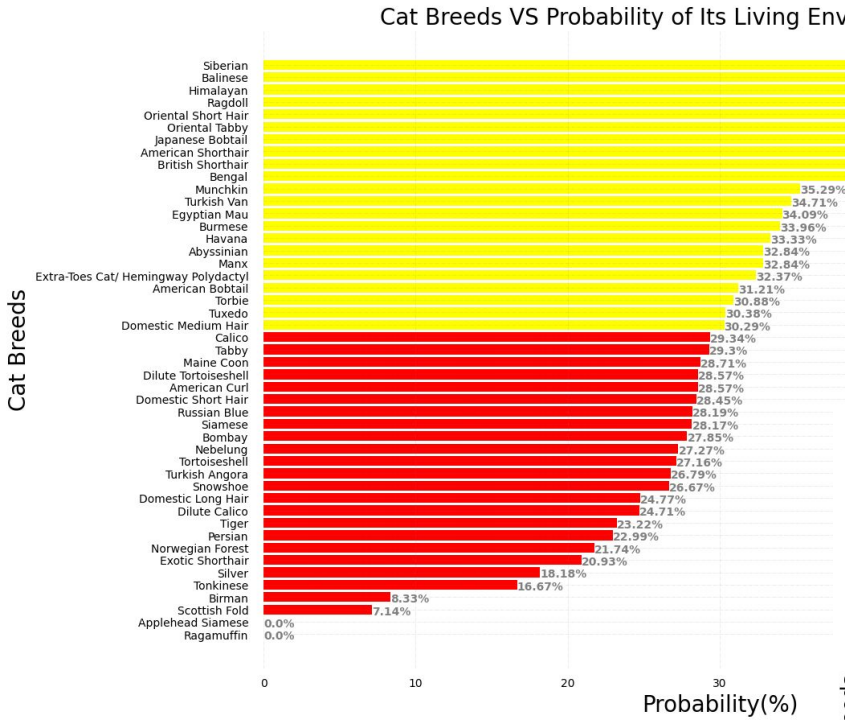



Dog Breed VS Probability of Its Living Environment has Children
Dog Breeds
Black Mouth Cur 74.41%
Black Labrador Retriever 71.61%
Mountain Cur 69.06%
Labrador Retriever 67.43%
Great Dane 67.26%
Yellow Labrador Retriever 66.67%
Great Pyrenees 66.58%
Rhodesian Ridgeback 66.07%
Pug 65.78%
Australian Cattle Dog / Blue Heeler 65.22%
Catahoula Leopard Dog 65.05%
American Bully 64.72%
Coonhound 64.48%
Pointer 64.29%
Boxer 64.21%
Plott Hound 64.06%
Chocolate Labrador Retriever 63.79%
Retriever 63.44%
Beagle 63.38%
Hound 62.41%
Shepherd 62.38%
Collie 62.13%
Husky 61.98%
Border Collie 61.56%
Treeing Walker Coonhound 61.11%
American Staffordshire Terrier 60.64%
German Shepherd Dog 60.11%
American Bulldog 59.93%
Basset Hound 59.87%
Anatolian Shepherd 59.31%
Shar-Pei 59.26%
Boston Terrier 58.85%
Bull Terrier 58.85%
Terrier 58.23%
Australian Shepherd 57.66%
Schnauzer 57.42%
Corgi 57.08%
Cane Corso 57.0%
English Bulldog 57.0%
Staffordshire Bull Terrier 56.14%
Pit Bull Terrier 55.92%
Mastiff 55.58%
Belgian Shepherd / Malinois 55.51%
Rottweiler 55.06%
Cattle Dog 54.75%
Jack Russell Terrier 54.64%
Golden Retriever 53.95%
Doberman Pinscher 53.79%
Siberian Husky 53.25%
Mixed Breed 53.01%
Poodle 51.89%
Yorkshire Terrier 48.52%
Dachshund 47.65%
Chihuahua 46.32%
Miniature Pinscher 44.77%
Maltese 42.93%
Shih Tzu 41.58%
Pomeranian 41.55%
Akita 41.39%
Rat Terrier 38.8%
good
caution
0
10
20
30
40
50
60
70
80
Probability(%)

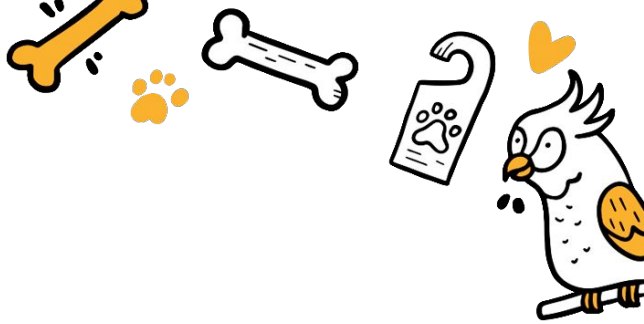

Cat Breeds VS Probability of Its Living Environment has another Cats
Cat Breeds
Tonkinese 100.0%
Oriental Tabby 100.0%
Burmese 94.34%
Bombay 91.88%
Balinese 91.67%
American Bobtail 91.49%
Manx 90.05%
Turkish Van 89.41%
Turkish Angora 89.29%
Abyssinian 89.22%
Tuxedo 89.14%
American Shorthair 89.13%
Tabby 88.83%
Russian Blue 88.43%
Domestic Medium Hair 88.0%
Extra-Toes Cat/ Hemingway Polydactyl 87.77%
Applehead Siamese 87.5%
Domestic Short Hair 86.94%
Oriental Short Hair 86.05%
Dilute Calico 85.55%
Tortoiseshell 85.53%
Tiger 85.52%
Maine Coon 85.41%
British Shorthair 84.93%
Calico 84.38%
Torbie 84.12%
Siamese 83.56%
Birman 83.33%
Havana 83.33%
Egyptian Mau 82.95%
Dilute Tortoiseshell 82.24%
Silver 81.82%
Exotic Shorthair 81.4%
Snowshoe 80.95%
Bengal 80.39%
Domestic Long Hair 80.08%
Japanese Bobtail 80.0%
Munchkin 76.47%
Siberian 76.47%
Himalayan 75.68%
Norwegian Forest 73.91%
Nebelung 72.73%
Ragdoll 72.46%
Persian 72.41%
American Curl 71.43%
Scottish Fold 64.29%
Ragamuffin 44.44%
0
20
40
60
80
Probability(%)

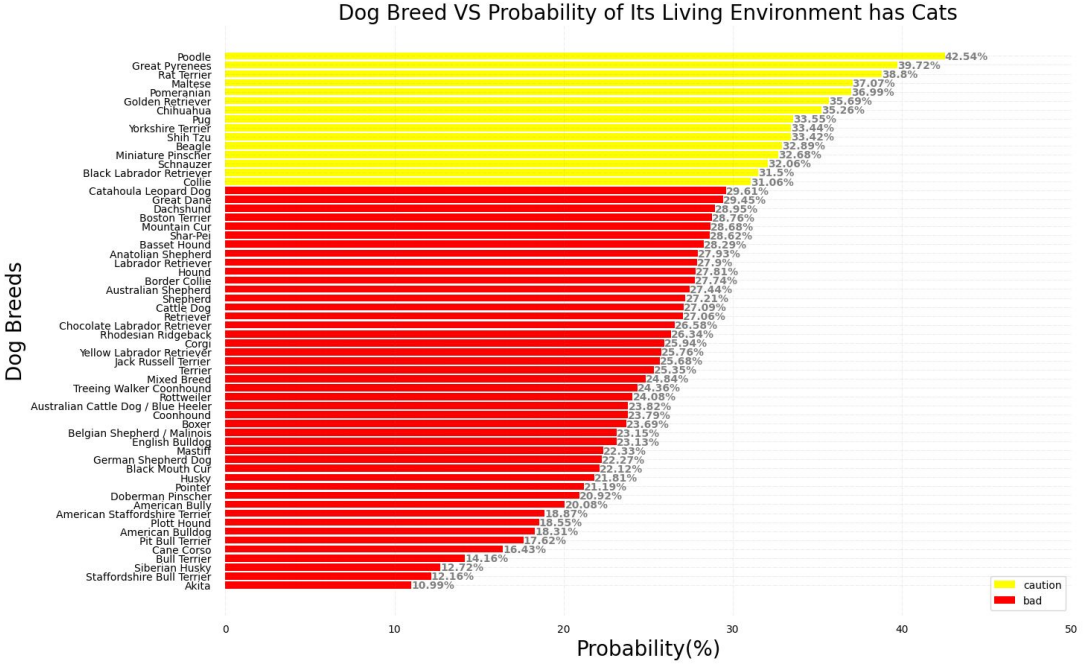
meow


Dog Breed VS Probability of Its Living Environment has Another Dogs
Dog Breeds
Pug 92.36%
Dachshund 91.07%
Collie 91.06%
Miniature Pinscher 90.85%
Chihuahua 90.53%
Pomeranian 89.5%
Golden Retriever 89.37%
Poodle 89.31%
Beagle 88.91%
Maltese 88.78%
Mountain Cur 88.68%
Pointer 88.57%
Great Pyrenees 88.56%
Black Mouth Cur 88.47%
Corgi 88.21%
Black Labrador Retriever 88.2%
Australian Cattle Dog / Blue Heeler 88.17%
Yorkshire Terrier 87.87%
Hound 87.73%
Yellow Labrador Retriever 87.66%
Shih Tzu 87.5%
Australian Shepherd 87.39%
Labrador Retriever 87.24%
Shepherd 87.09%
Schnauzer 87.08%
Rat Terrier 86.96%
Husky 86.78%
Treeing Walker Coonhound 86.75%
Retriever 86.47%
Coonhound 86.21%
Border Collie 85.87%
Jack Russell Terrier 85.79%
Catahoula Leopard Dog 85.68%
Siberian Husky 85.54%
Plott Hound 84.93%
Belgian Shepherd / Malinois 84.72%
Great Dane 84.6%
Terrier 84.13%
Chocolate Labrador Retriever 84.05%
Cattle Dog 83.66%
Basset Hound 83.55%
Rhodesian Ridgeback 83.48%
German Shepherd Dog 82.67%
Anatolian Shepherd 82.41%
Boston Terrier 81.42%
Doberman Pinscher 80.23%
Mixed Breed 78.22%
Boxer 77.73%
Shar-Pei 77.1%
Rottweiler 75.31%
Staffordshire Bull Terrier 75.16%
Mastiff 73.54%
American Bully 71.73%
American Staffordshire Terrier 71.1%
Cane Corso 71.01%
Pit Bull Terrier 69.72%
American Bulldog 68.53%
English Bulldog 67.43%
Bull Terrier 65.93%
Akita 49.45%
good
caution
0
20
40
60
80
100
Probability(%)


Cat Breeds VS Probability of Its Living Environment has Dogs
Cat Breeds
Siberian 58.82%
Balinese 58.33%
Himalayan 43.24%
Ragdoll 42.03%
Oriental Short Hair 41.86%
Oriental Tabby 41.18%
Japanese Bobtail 40.0%
American Shorthair 39.73%
British Shorthair 39.73%
Bengal 39.22%
Munchkin 35.29%
Turkish Van 34.71%
Egyptian Mau 34.09%
Burmese 33.96%
Havana 33.33%
Abyssinian 32.84%
Manx 32.84%
Extra-Toes Cat/ Hemingway Polydactyl 32.37%
American Bobtail 31.21%
Torbie 30.88%
Tuxedo 30.38%
Domestic Medium Hair 30.29%
Calico 29.34%
Tabby 29.3%
Maine Coon 28.71%
Dilute Tortoiseshell 28.57%
American Curl 28.57%
Domestic Short Hair 28.45%
Russian Blue 28.19%
Siamese 28.17%
Bombay 27.85%
Nebelung 27.27%
Tortoiseshell 27.16%
Turkish Angora 26.79%
Snowshoe 26.67%
Domestic Long Hair 24.77%
Dilute Calico 24.71%
Tiger 23.22%
Persian 22.99%
Norwegian Forest 21.74%
Exotic Shorthair 20.93%
Silver 18.18%
Tonkinese 16.67%
Birman 8.33%
Scottish Fold 7.14%
Applehead Siamese 0.0%
Ragamuffin 0.0%
0
10
20
30
Probability(%)

meow




Dog Breed VS Probability of Its Living Environment has Cats
Dog Breeds
Poodle 42.54%
Great Pyrenees 39.72%
Rat Terrier 38.8%
Maltese 37.07%
Pomeranian 36.99%
Golden Retriever 35.69%
Chihuahua 35.26%
Pug 33.55%
Yorkshire Terrier 33.44%
Shih Tzu 33.42%
Beagle 32.89%
Miniature Pinscher 32.68%
Schnauzer 32.06%
Black Labrador Retriever 31.5%
Collie 31.06%
Catahoula Leopard Dog 29.61%
Great Dane 29.45%
Dachshund 28.95%
Boston Terrier 28.76%
Mountain Cur 28.68%
Shar-Pei 28.62%
Basset Hound 28.29%
Anatolian Shepherd 27.93%
Labrador Retriever 27.9%
Hound 27.81%
Border Collie 27.74%
Australian Shepherd 27.44%
Shepherd 27.21%
Cattle Dog 27.09%
Retriever 27.06%
Chocolate Labrador Retriever 26.58%
Rhodesian Ridgeback 26.34%
Corgi 25.94%
Yellow Labrador Retriever 25.76%
Jack Russell Terrier 25.68%
Terrier 25.35%
Mixed Breed 24.84%
Treeing Walker Coonhound 24.36%
Rottweiler 24.08%
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Coonhound 23.79%
Boxer 23.69%
Belgian Shepherd / Malinois 23.15%
English Bulldog 23.13%
Mastiff 22.33%
German Shepherd Dog 22.27%
Black Mouth Cur 22.12%
Husky 21.81%
Pointer 21.19%
Doberman Pinscher 20.92%
American Bully 20.08%
American Staffordshire Terrier 18.87%
Plott Hound 18.55%
American Bulldog 18.31%
Pit Bull Terrier 17.62%
Cane Corso 16.43%
Bull Terrier 14.16%
Siberian Husky 12.72%
Staffordshire Bull Terrier 12.16%
Akita 10.99%
caution
bad
0
10
20
30
40
50
Probability(%)

top 5 Cat/Dog Breeds with different living environment

01.
has children

['Balinese',
'American Shorthair',
'Havana',
'Siberian',
'Oriental Tabby']

['Black Mouth Cur ',
'Black Labrador Retriever',
'Mountain Cur',
'Labrador Retriever',
'Great Dane']

02.
has dogs

['Siberian',
'Balinese',
'Himalayan',
'Ragdoll',
'Oriental Shorthair']

['Pug',
'Dachshund',
'Collie'
'Miniature Pinscher',
'Chihuahua']

03.
has cats

['Tonkinese',
'Oriental Tabby',
'Burmese',
'Bombay'
'Balinese']

['Poodle',
'Great Pyrenees',
'Maltese',
'Pomeranian',
'Golden Retriever']

Most Friendly/Unfriendly Cats

top 5 cat breeds recommend

- American Bobtail
- American Shorthair
- Balinese
- Manx
- Oriental Tabby

some cat breeds might need to reconsider

- Applehead Siamese
- Ragamuffin
- Scottish Fold

Most Friendly/Unfriendly Dogs

top 5 dog breeds recommend

- Beagle
- Black Labrador Retriever
- Great Pyrenees
- Mountain Cur
- Pug

some dog breeds might need to reconsider

- Akita
- Mastiff
- Pit Bull Terrier

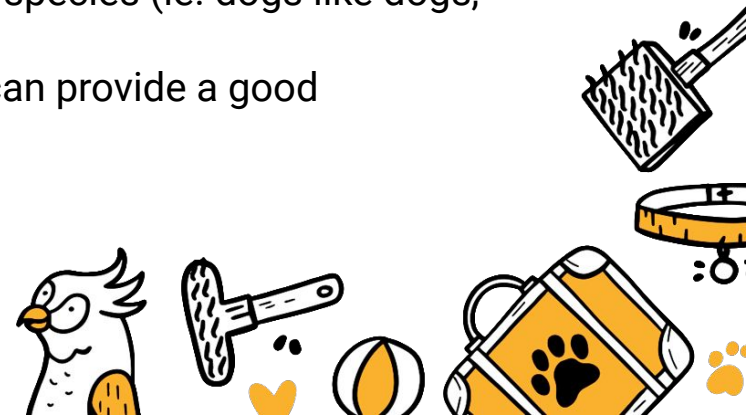
Conclusion

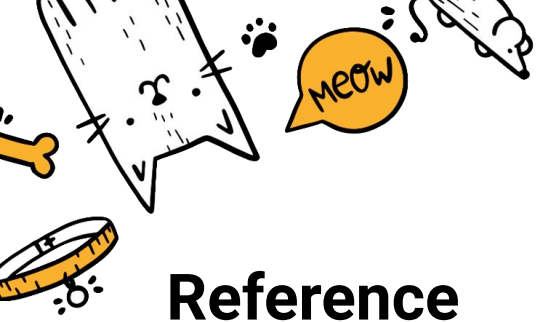
Population Distribution:

- Population distribution of dog is related to human population.
- Population distribution of cat is related to human density.

Living Environment:

- Pets are more likely to live with their own species (ie. dogs like dogs, cats like cats).
- Consider carefully when adopting if you can provide a good environment for your upcoming pet.





Reference

[1] List of states and territories of the United States by population density. (2023, February 20). In Wikipedia. https://en.wikipedia.org/wiki/List_of_states_and_territories_of_the_United_States_by_population_density

[2] List of U.S. states and territories by population. (2023, March 9). In Wikipedia. https://en.wikipedia.org/wiki/List_of_U.S._states_and_territories_by_population

[3] Bennett, K. F., Evans, B. S., Clark, J. A., & Marra, P. P. (2021). Domestic cat abundance and activity across a residential land use gradient. Frontiers in Ecology and Evolution, 9. https://doi.org/10.3389/fevo.2021.643845

[4] Dailypaws. [Cat and dog pictures]. https://www.dailypaws.com/

Thanks !