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# What Affects Pet Adoption Rate in Different Malaysian States

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# Motivation + Goal

- Motivation: Millions of stray animals are looking for homes
- Goal: Increase chances of adoption
- How?
  - Analyze pet profiles from Malaysian shelters
  - Determine favorable characteristics
  - Recommender System



# Adoption Speed Scale

0 : Same day

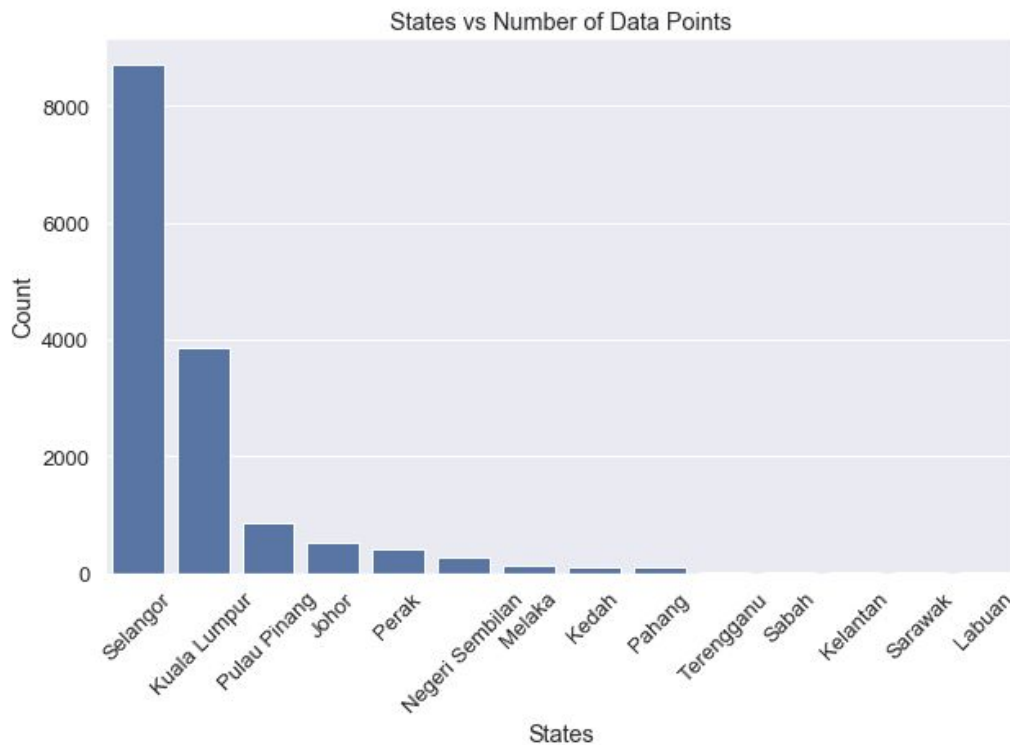
1 : After 1 - 7 days

2 : After 8 - 30 days

3 : After 31 - 90 days

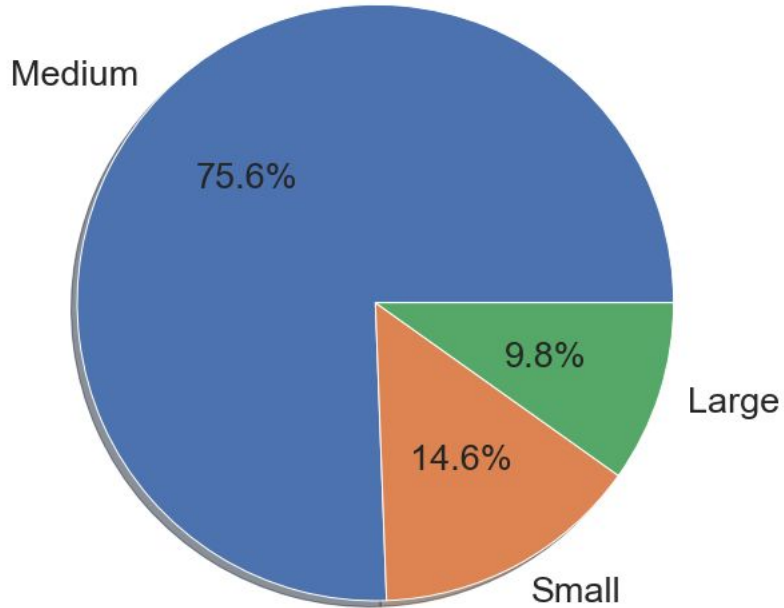
4 : No adoption after 91 days

# State-wise Pet Count

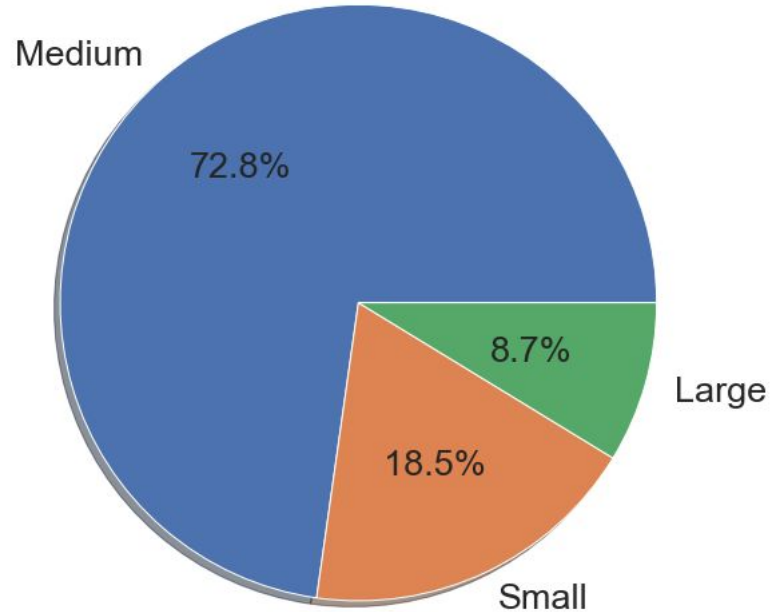


# Maturity Size Analysis: Dogs in Top 2 States

Dog Size Distribution in Selangor

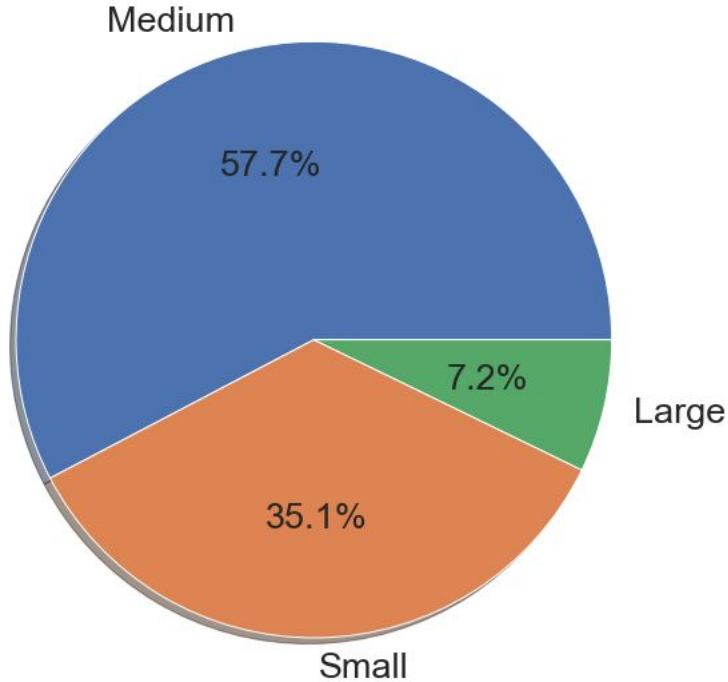


Dog Size Distribution in Kuala Lumpur

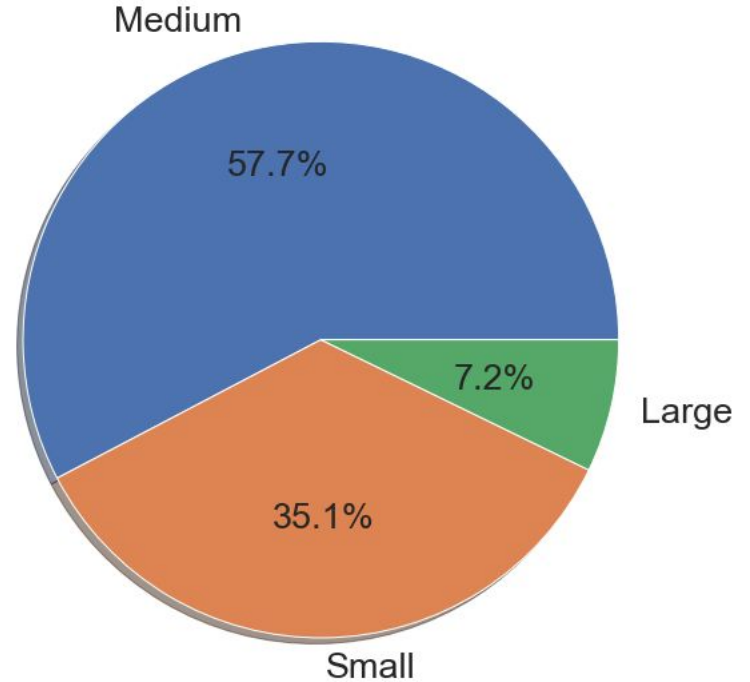


# Maturity Size Analysis: Cats in Top 2 States

Cat Size Distribution in Kuala Lumpur

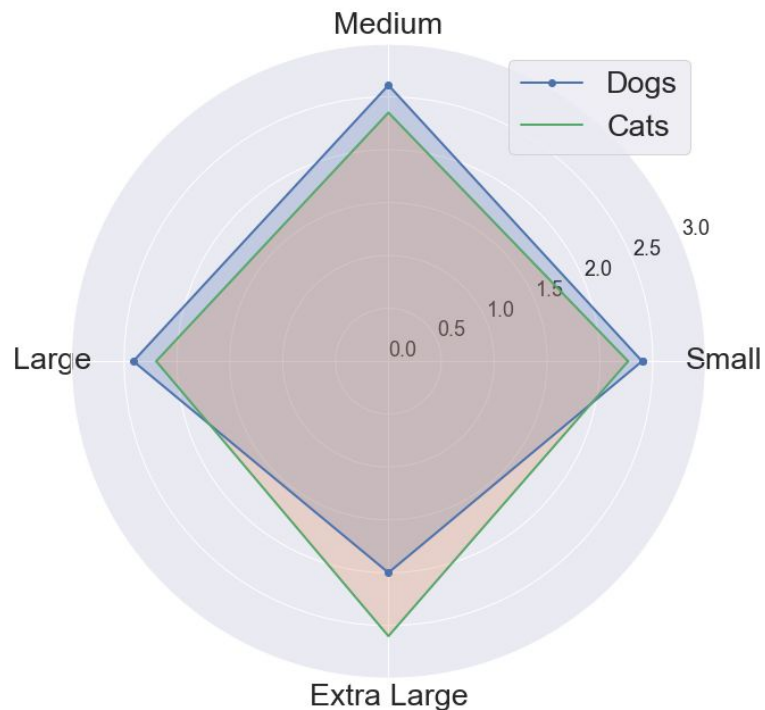


Cat Size Distribution in Kuala Lumpur

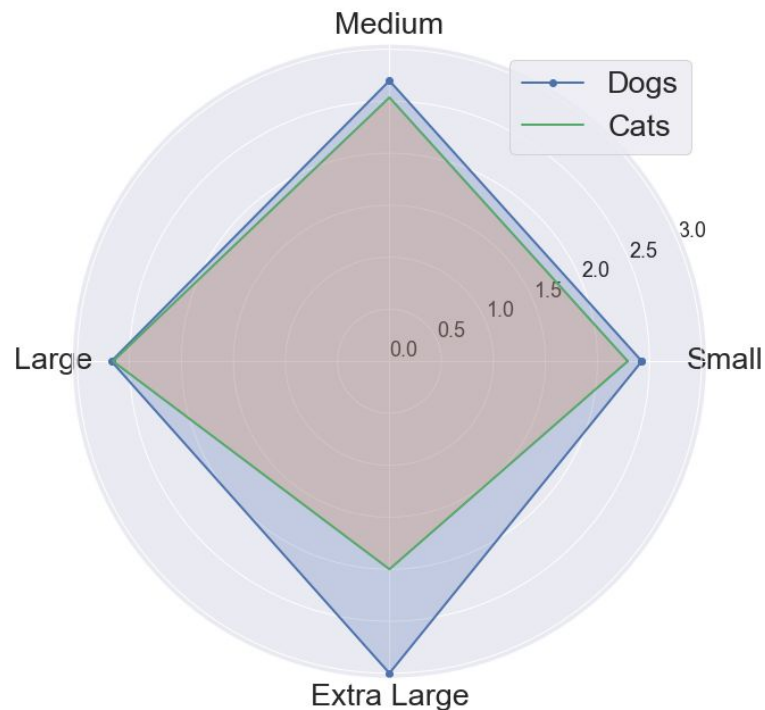


# Maturity Size Analysis: Average Adoption Speed in Top States

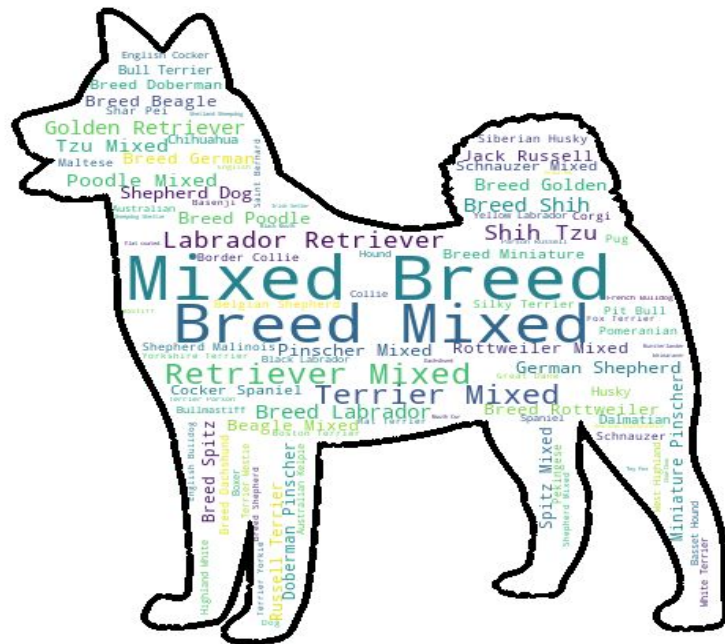
Selangor - Maturity Size vs. Adoptability



Kuala Lumpur - Maturity Size vs. Adoptability



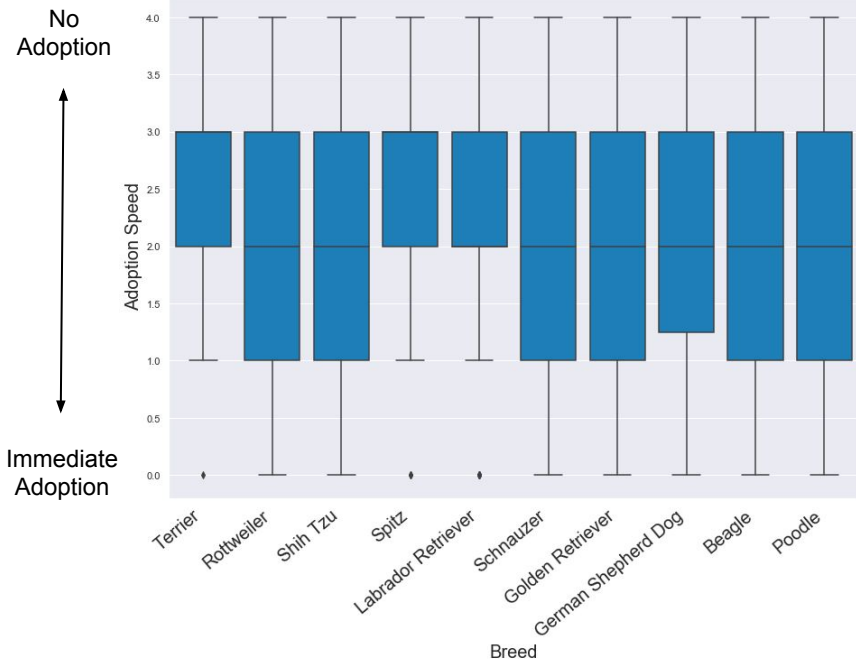
# Breed Analysis: Breed Distribution



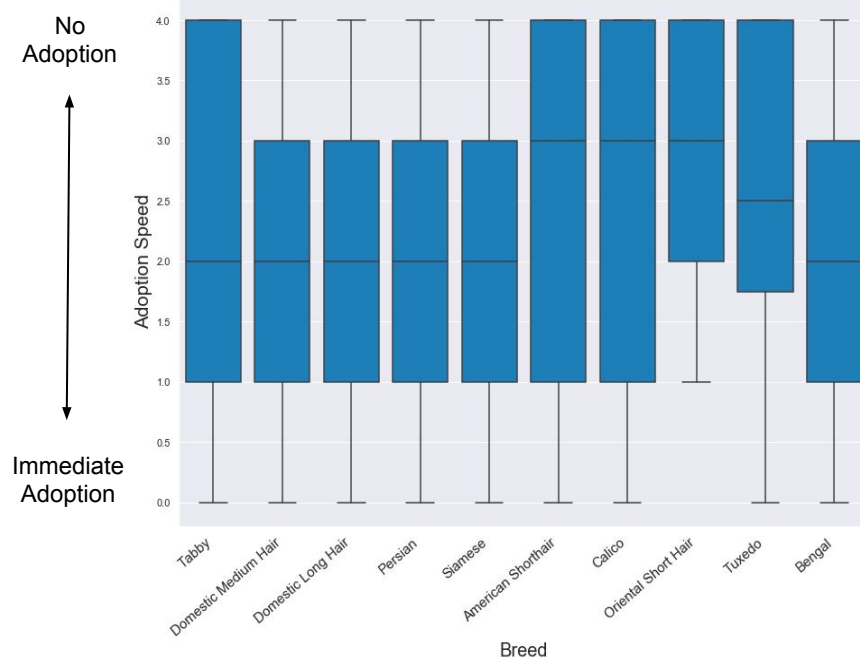


# Breed Analysis: Top 10 Purebreds

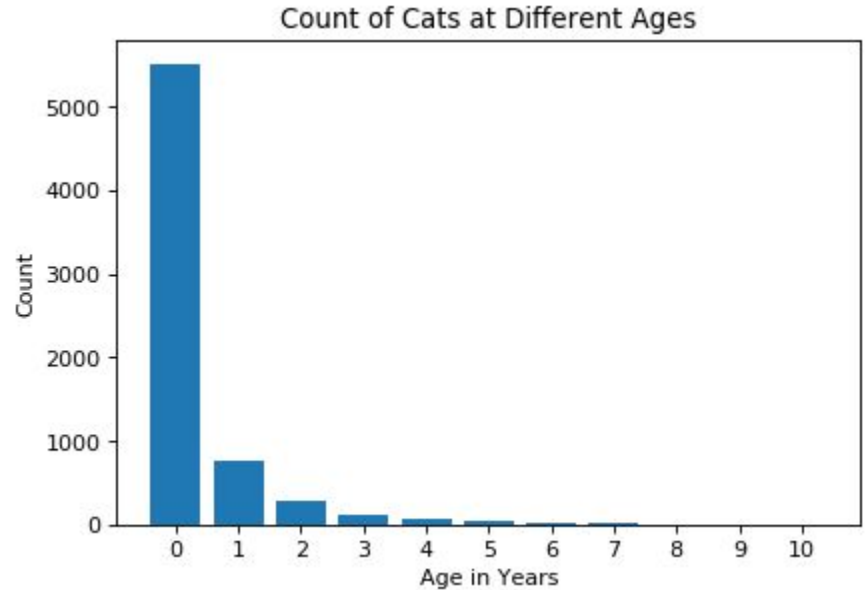
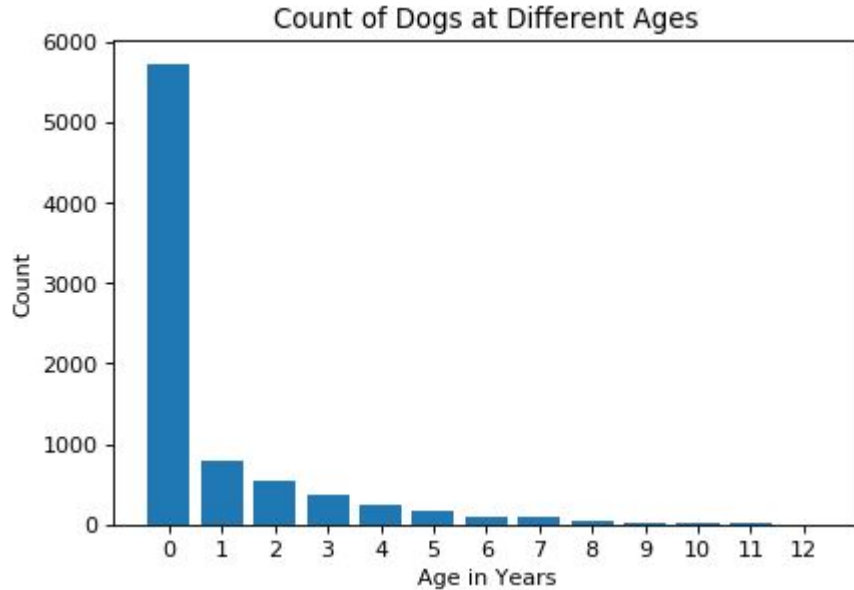
Adoption Speed Spread for Top 10 Dog Breeds



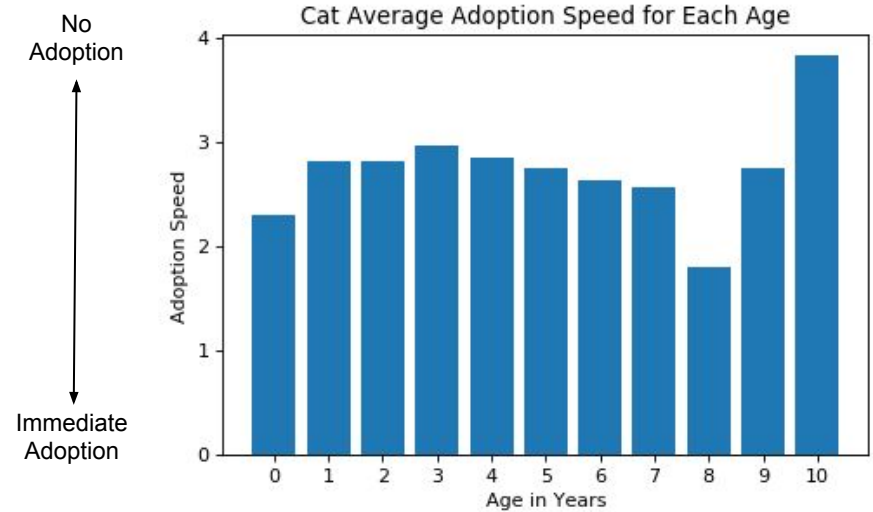
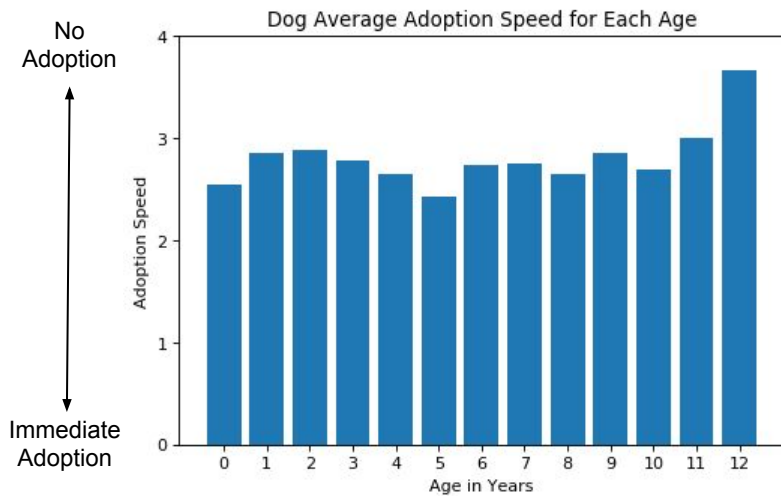
Adoption Speed Spread for Top 10 Cat Breeds



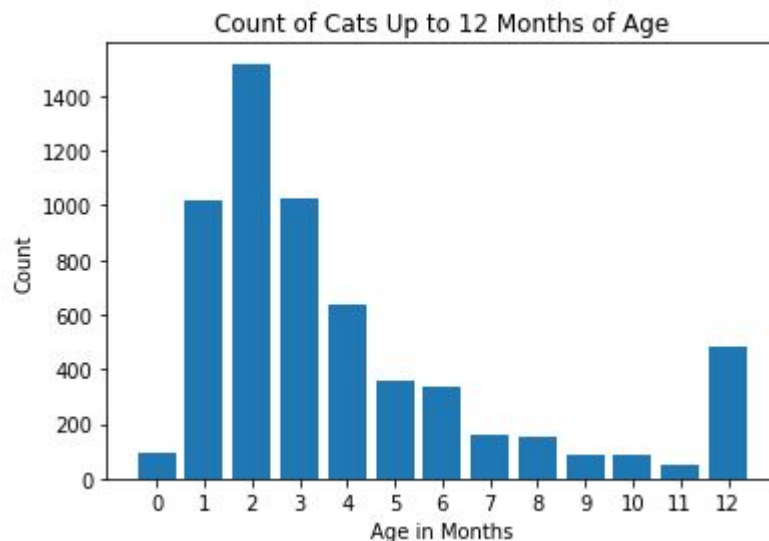
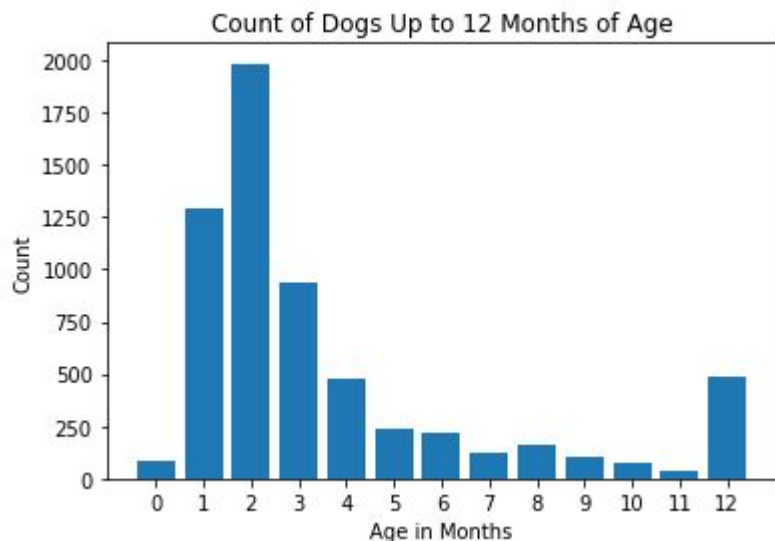
# Age Analysis: Total Dog and Cat Count



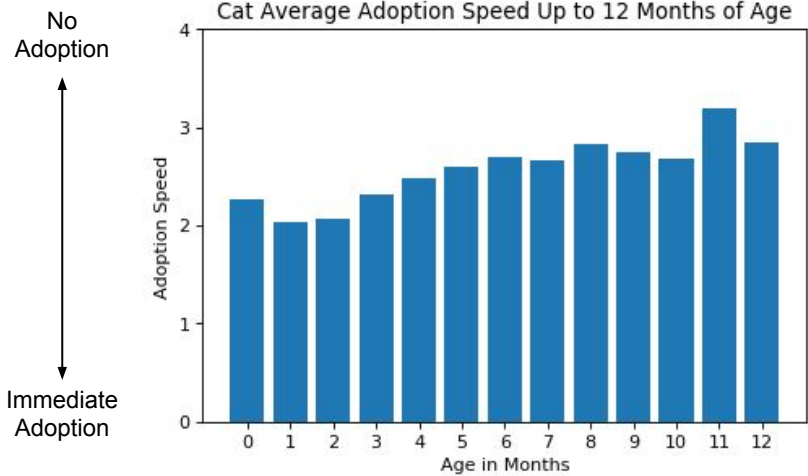
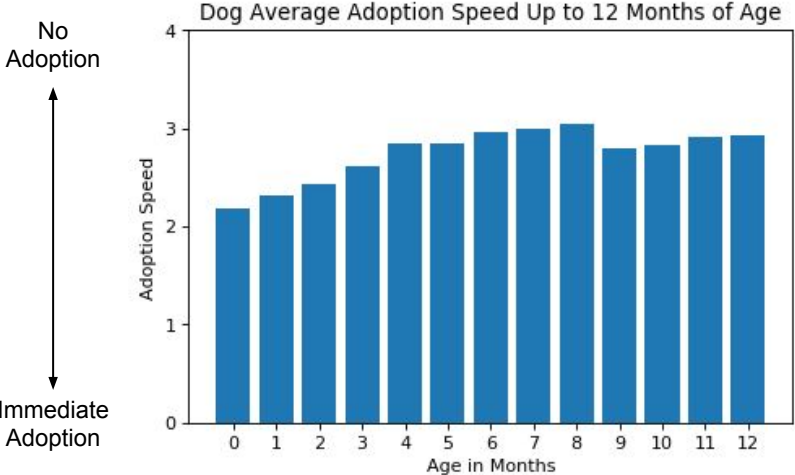
# Age Analysis: Average Adoption Speed



# 12 Months Age Analysis: Dog and Cat Count

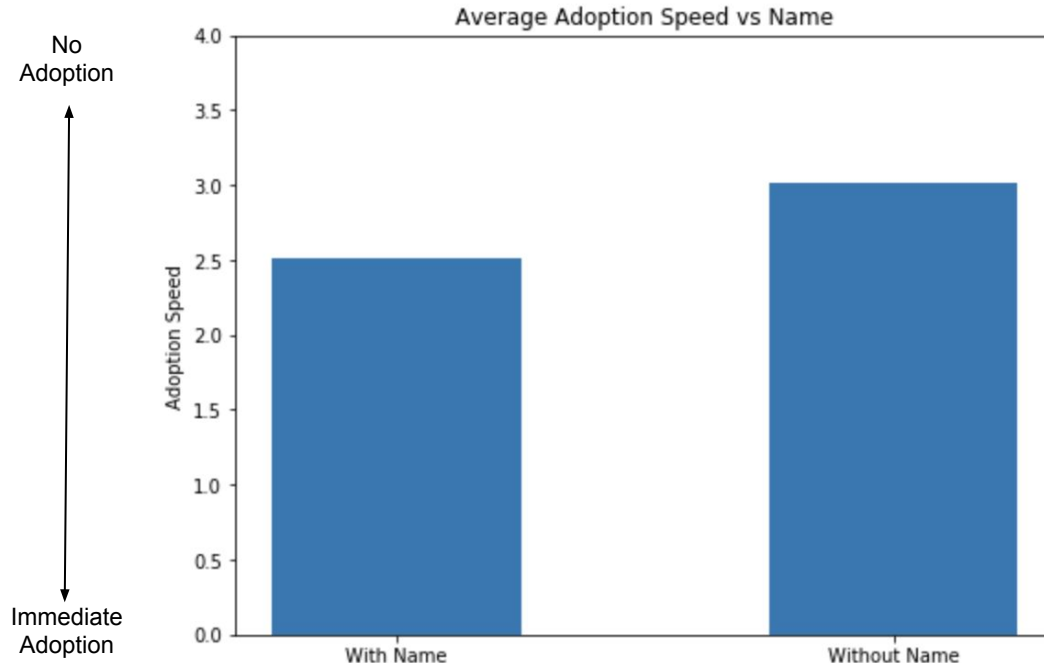


# 12 Months Age Analysis: Average Adoption Speed



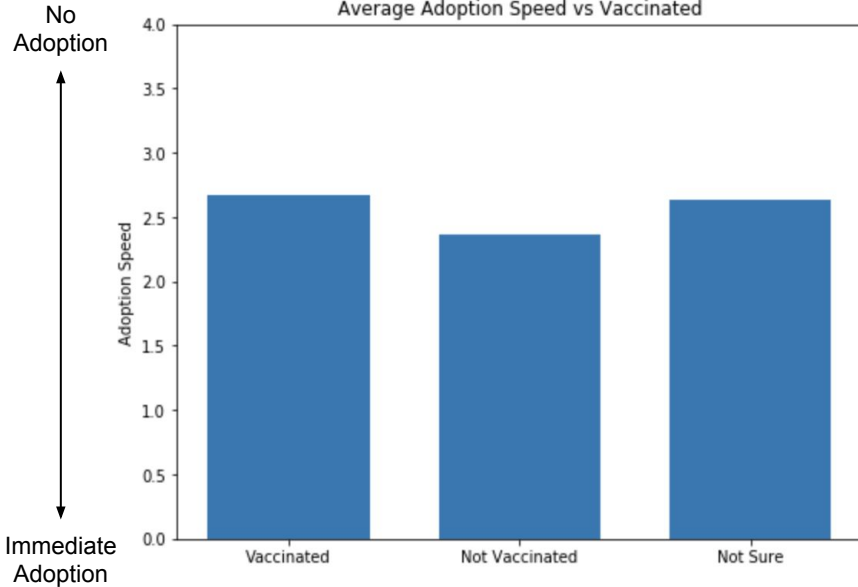


# Name Analysis: Average Adoption Speed

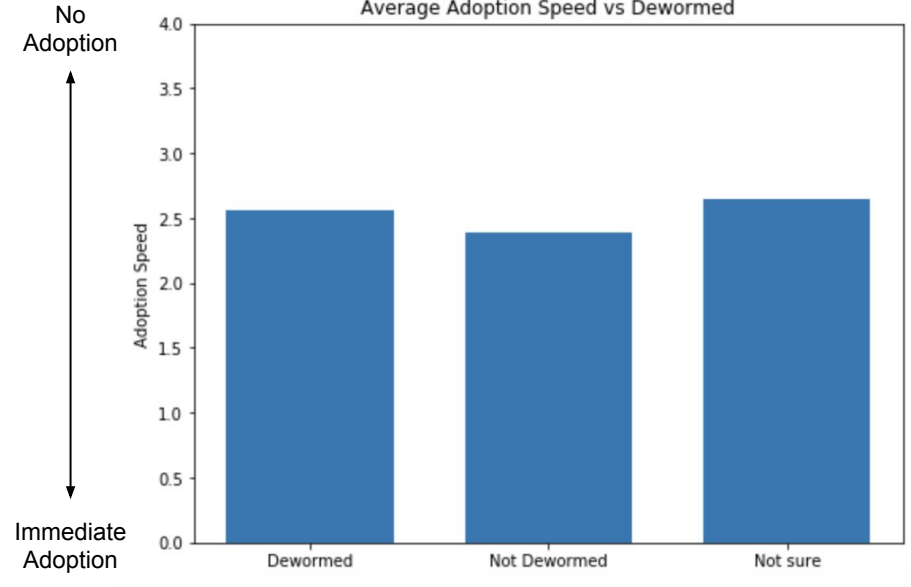


# Vaccination/Deworming Analysis: Adoption Speed

Average Adoption Speed vs Vaccinated



Average Adoption Speed vs Dewormed

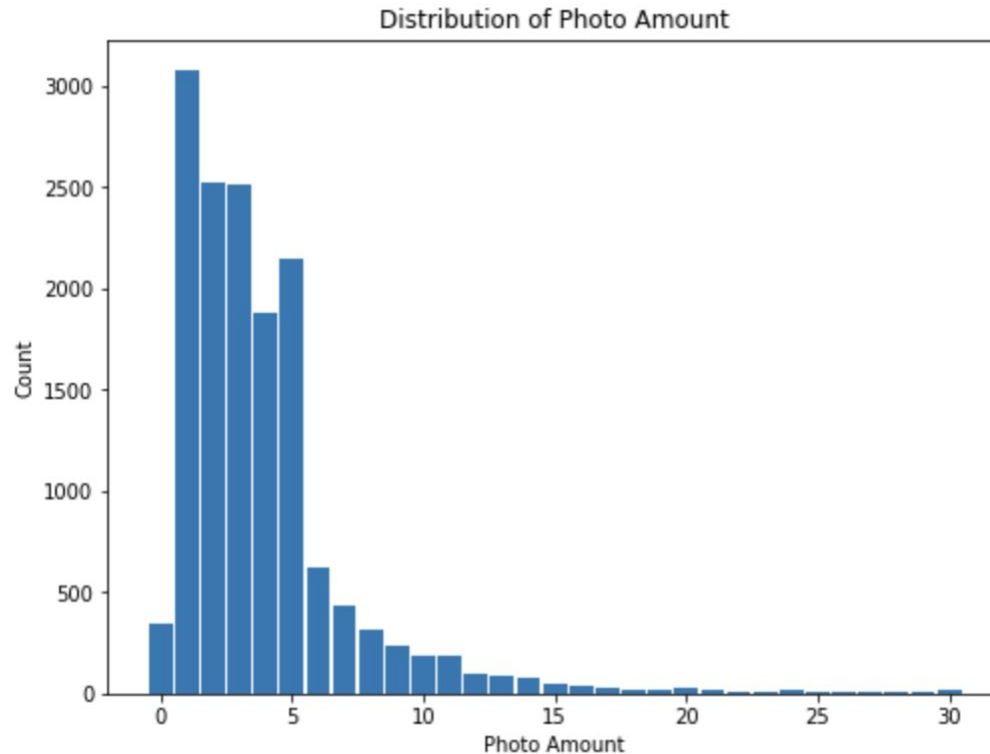




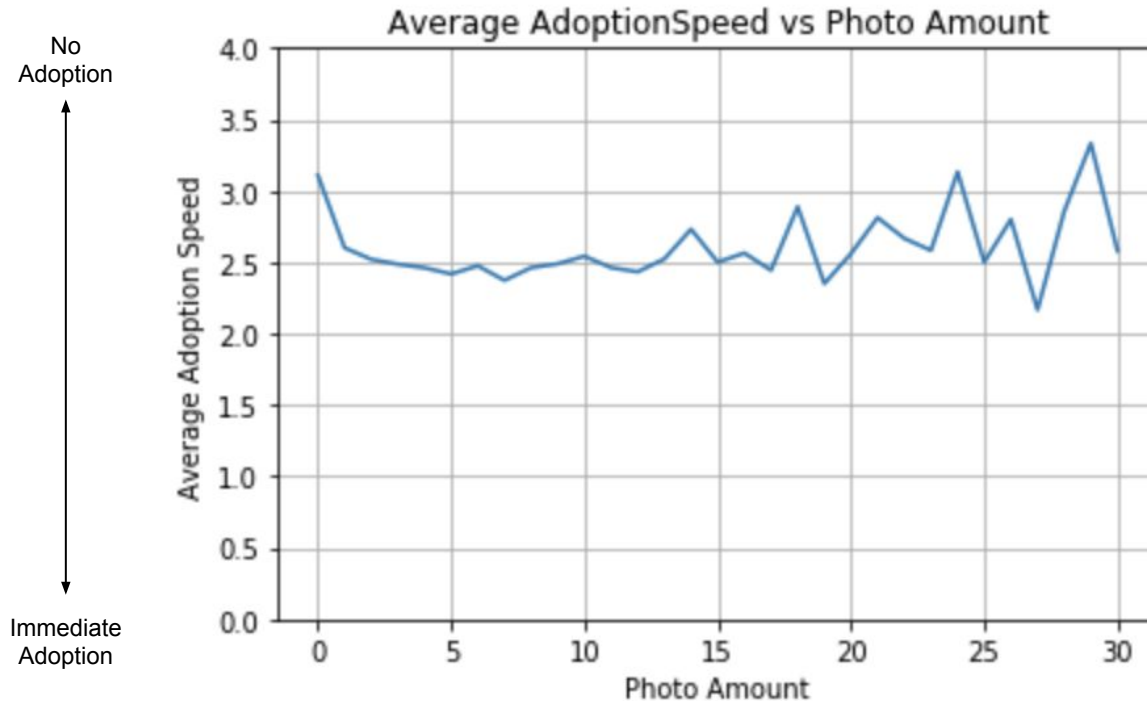
## Health Analysis: Correlation Matrix of Health Features

	Vaccinated	Dewormed	Sterilized
Vaccinated	1.0	0.72	0.47
Dewormed	0.72	1.0	0.43
Sterilized	0.47	0.43	1.0

# Photo Amount Analysis: Distribution of Photo Amount

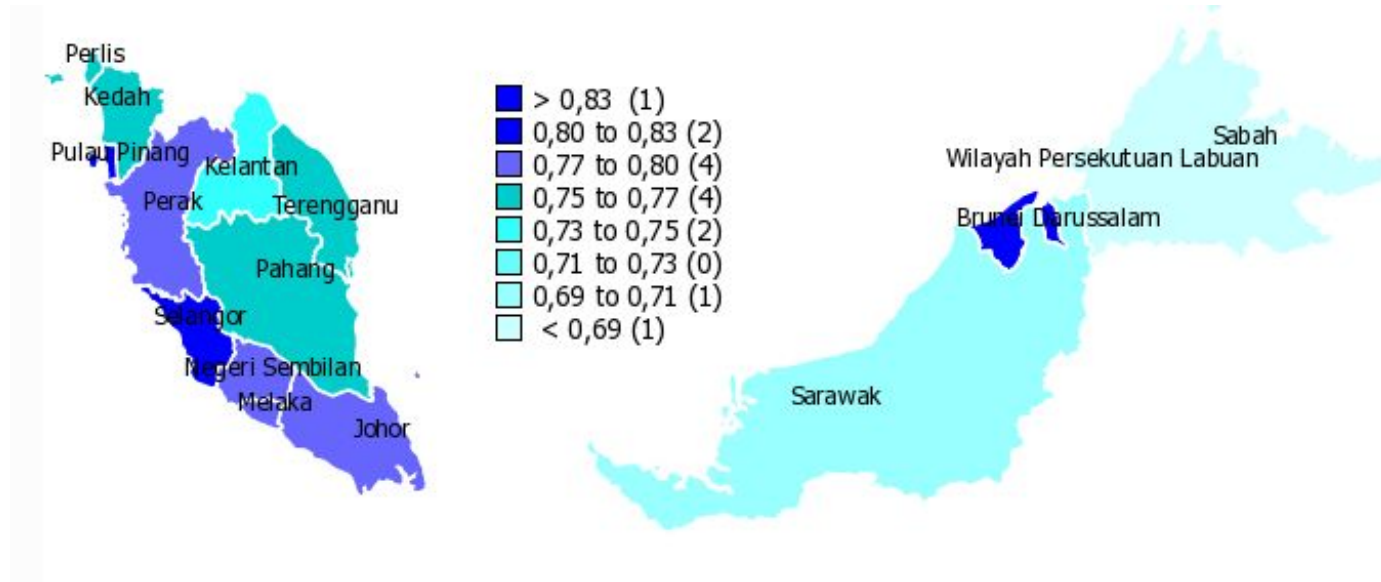


# Photo Amount Analysis: Average Adoption Speed

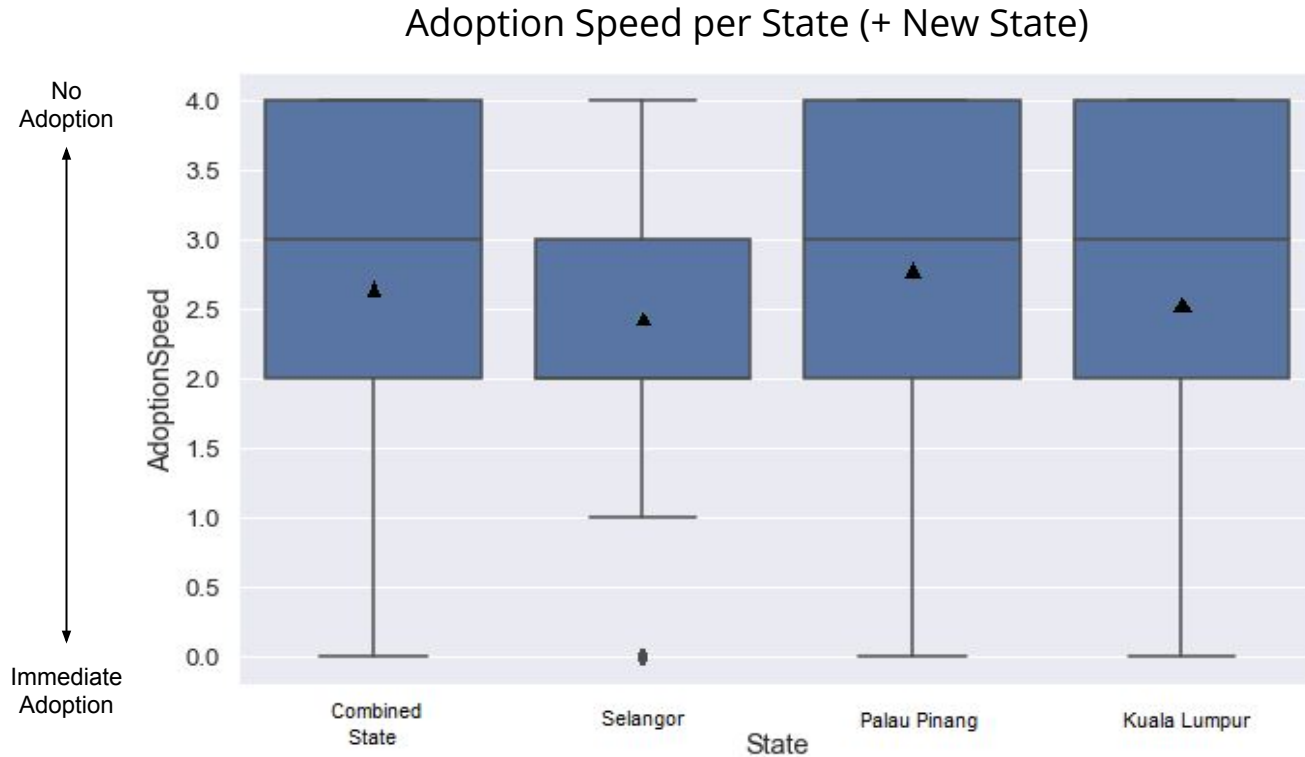


# State-wise Analysis: Human Development Index (HDI)

- Top three states: Selangor, Kuala Lumpur, Pulau Pinang
- Correlation between HDI and State-wise count: **0.539**
- Combine States based on HDI



# State-wise Analysis: Adoption Speed by State



Enter State: Kuala Lumpur  
 Type of Pet: Dog  
 Breed: Mixed

Out[111]

	Type	Name	Age	Gender	FurLength	Vaccinated	Owned	Sterilized	Quantity	Fee	Description	PetID	StateName
1519	1	Brendy	12	2	2	Yes	Yes	Yes	1	0	Clever lively	88041296	Kuala Lumpur
1909	1	Kiki	13	0	1	Yes	Yes	Yes	1	0	Kiki is a good dog. She help you to take care	94000389	Kuala Lumpur
2725	1	K-1 Jorge	38	1	2	Yes	Yes	Yes	1	0	Jorge is a stout, strong dog yet soft enough a...	77581470	Kuala Lumpur
4009	1	Save ME Or I'll Die 4U	2	2	1	Not Sure	Not Sure	Not Sure	2	0	PLEASE RESCUE/ADOPT ME FROM KLANG POUND OR I WILL...	0e19e898	Kuala Lumpur
4800	1	Big Foot	2	1	1	No	No	No	1	0	Big Foot was rescued together with another dog...	602056	Kuala Lumpur

Recorded with SCREENCASTOMATIC

# Conclusion: Changes to Improve Adoption Speed

- In general
  - Move dogs and cats to high HDI locations
  - 5-10 photos
- Majority:
  - Below 1 year old, have adoption speed of 2-3
    - Emphasis on sterilization!
- Minority:
  - Above 1 year old, average adoption speed is unsure
- Recommender System
  - If age isn't filtered, recommend older dogs and cats
  - Recommend dogs and cats that have been there longer