



Grace Valmadrid
January 2020



→ 370,000 cats

A female **cat** and its offsprings can produce over 7 years

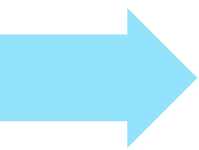
→ 67,000 dogs

A female **dog** and its offsprings can produce over 6 years

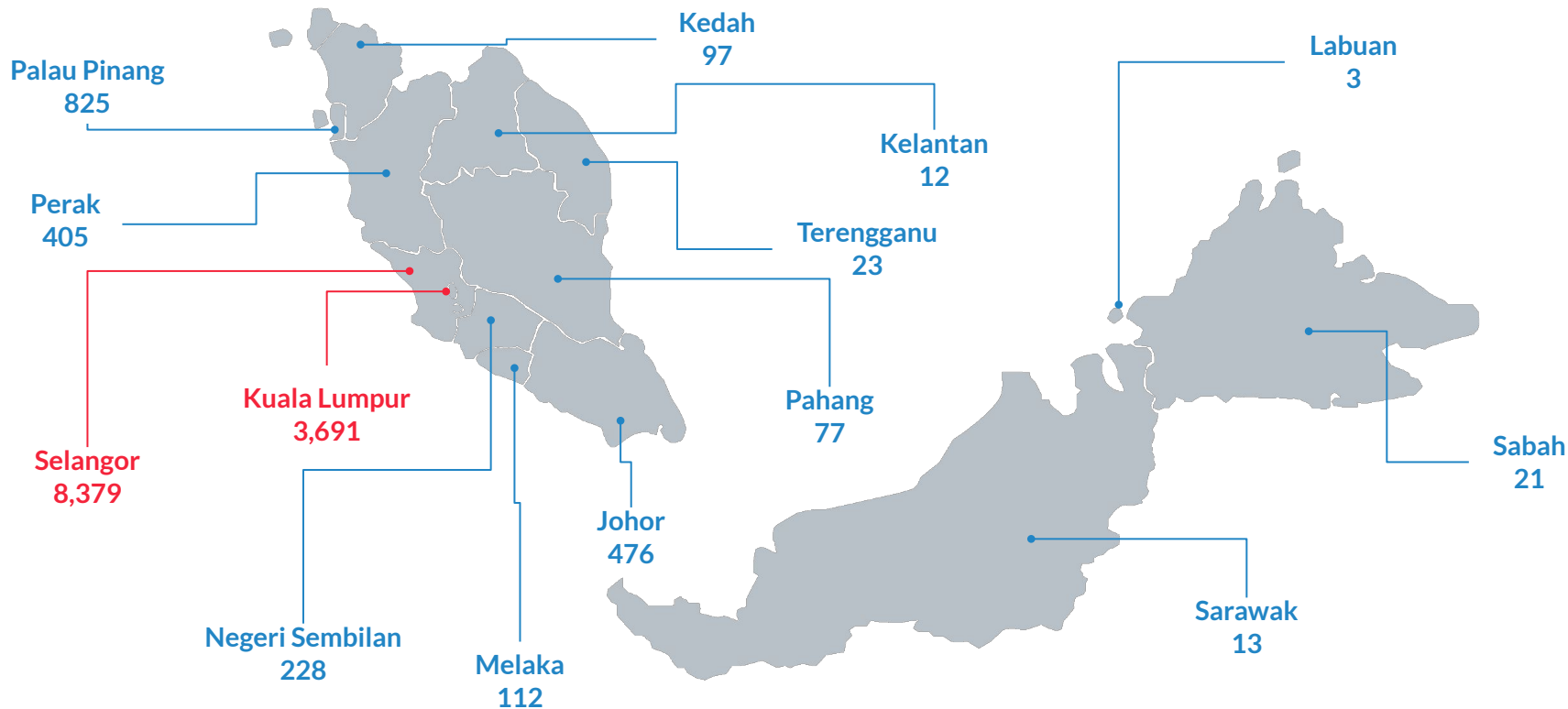




How can we help
shelters, rescuers and
owners rehome their
pets faster?



14,372 pet listings across Malaysia

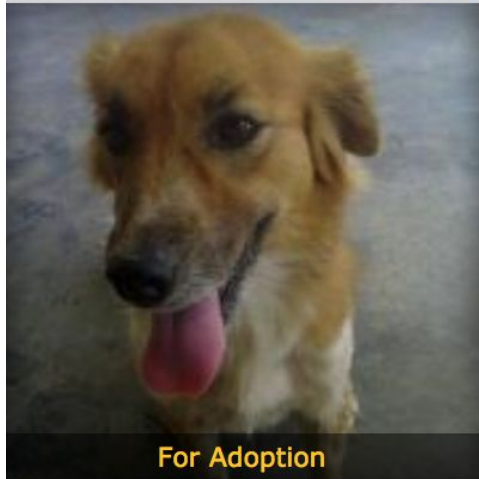




Pet information

« Back To Listing

Happy-FIFI



For Adoption

Dog	Mixed Breed
Profile	Male, 29 Years 3 Months
Vaccinated	Not Sure
Dewormed	Not Sure
Neutered	Not Sure
Condition	Healthy
Body	Medium Size, Medium Fur
Color	Brown, White
Location	Ipoh, Perak
Posted	9 Feb 2012
Adoption Fee	FREE



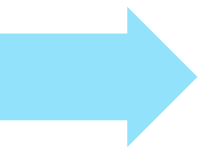
This pet has been listed for over 90 days and may already have been adopted. Kindly **notify us** if it is no longer available, to help us maintain an accurate database of pets.

very suitable to be a guard.
easy handle. :)
cute and fierce to strangers

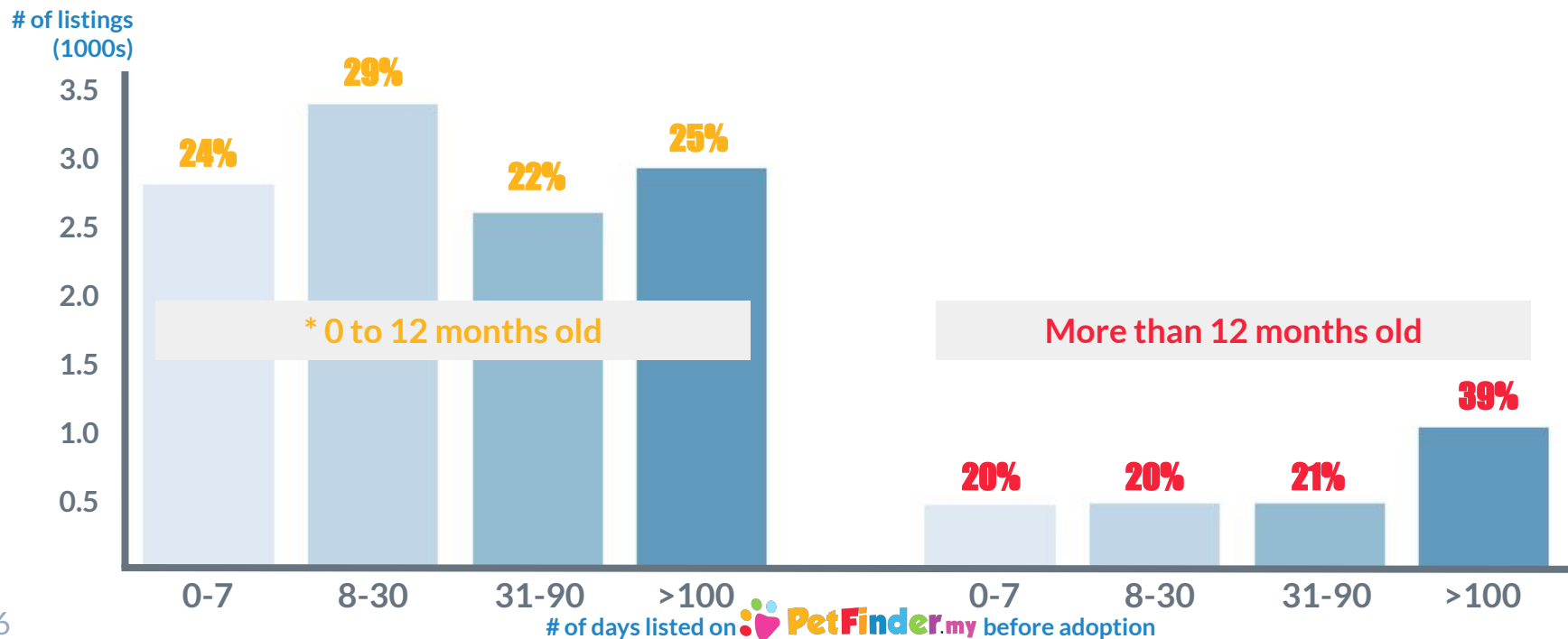
Google Cloud Natural Language API

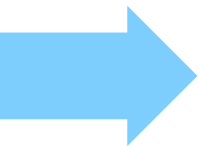
	Score	Magnitude
Entire Document	0.6	1.8
very suitable to be a guard.	0.1	0.1
easy handle. :)	0.8	0.8
cute and fierce to strangers	0.7	0.7

Score Range 0.25 – 1.0 -0.25 – 0.25 -1.0 – -0.25

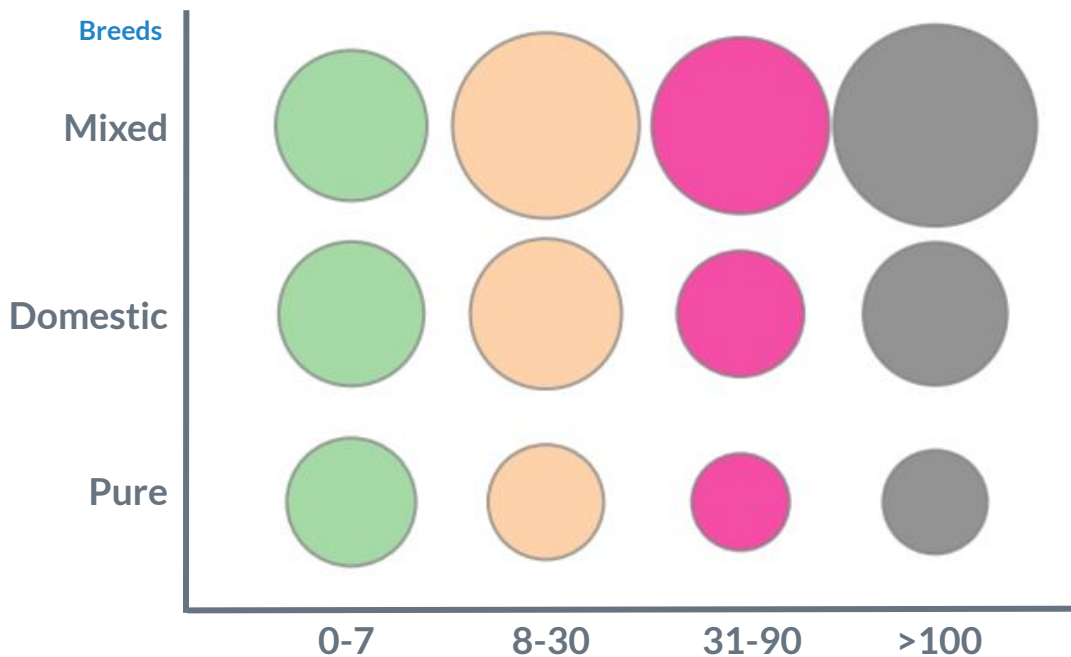


Do **younger*** pets get adopted faster?

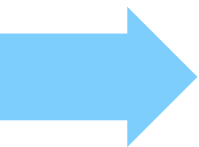




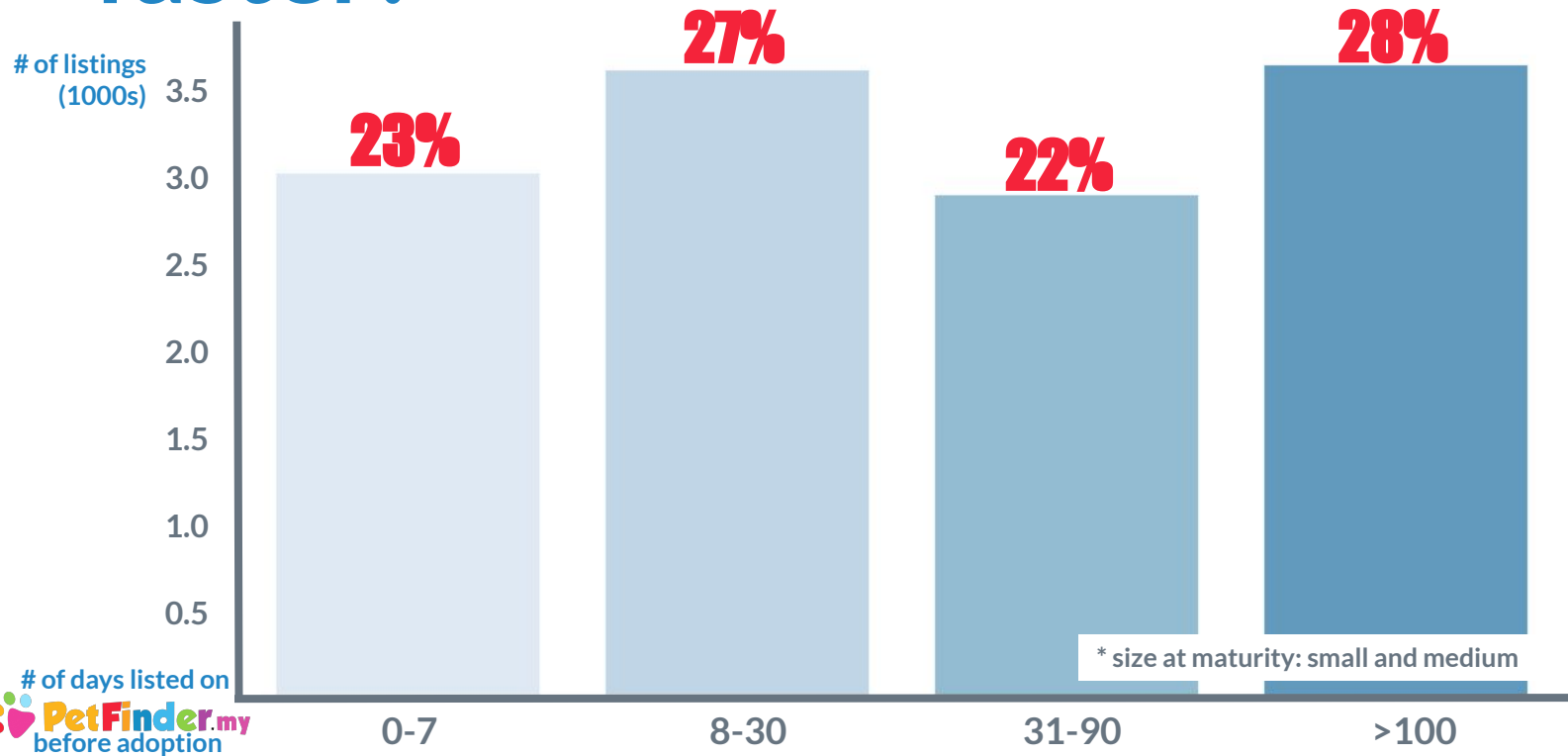
Do pure and mixed breeds get adopted faster?

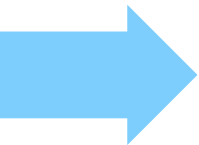


of days listed on
PetFinder.my
before adoption

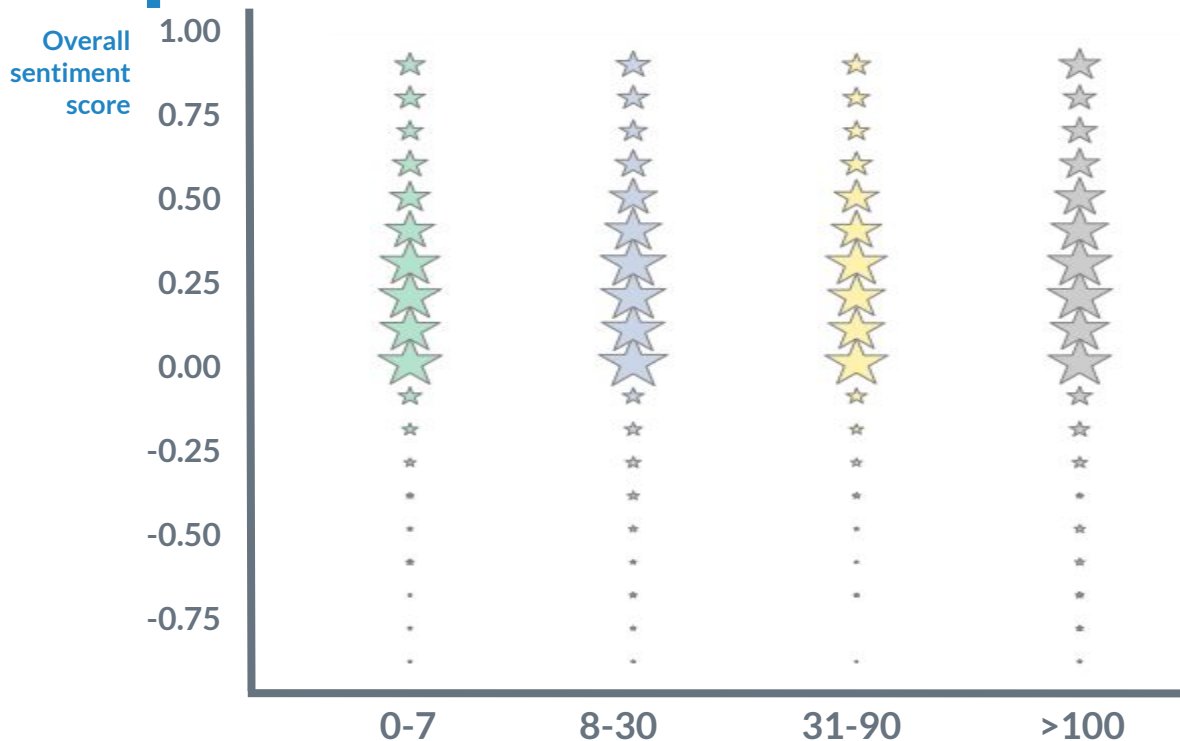


Do smaller* breeds get adopted faster?





Does a well-written description help?





Classifier Model

Accuracy score: **0.41**

Cohen's kappa score: **0.36**

***Dataset lacks the
needed information!***

Confusion Matrix				
Actual	Prediction			
	0-7	8-30	31-90	>100
0-7	41	30	6	23
8-30	25	35	15	25
31-90	15	33	19	33
>100	11	16	8	65

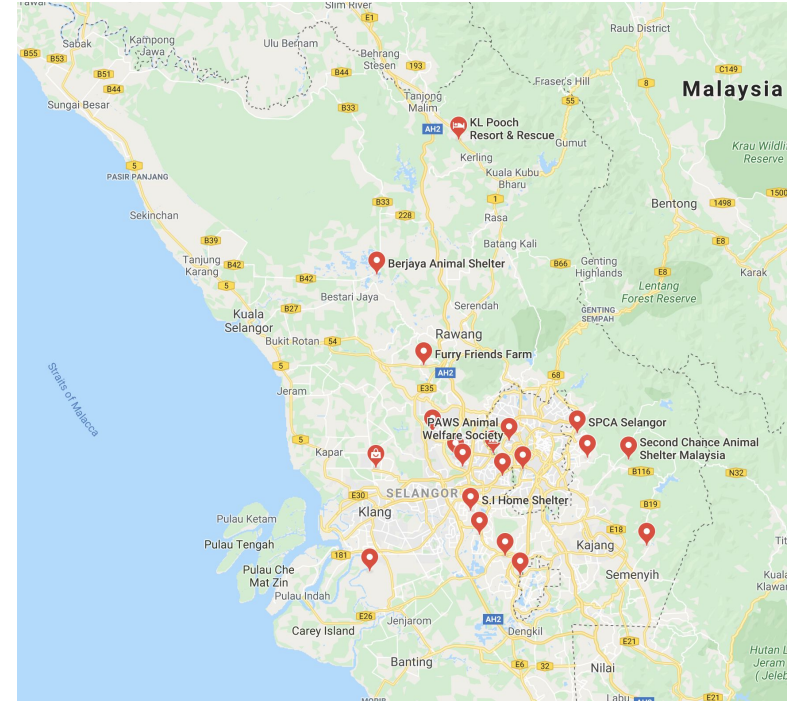
of days listed on
Petfinder.my
before adoption

Figures in the above matrix are all in %



➡ So what does the model say?

- There is very low chance that pets in **Kuala Lumpur** will be rehomed within 3 months.
- Surrounding state, **Selangor**, has a higher success rate of pets getting adopted faster.
- Smaller breeds are preferred.



Courtesy of Google Maps



Recommended Enhancement




Offer users similar pet listings

Deploy a recommendation system based on images

Current Layout

[Back To Listing](#)


Ted




Cat	Domestic Short Hair
Profile	Female, 7 Years 7 Months
Vaccinated	Yes
Dewormed	Yes
Spayed	Yes
Condition	Healthy
Body	Large Size, Short Fur
Color	Black, Gray, White
Location	Kota Damansara , Selangor
Posted	13 Jun 2016
Adoption Fee	FREE

For Adoption

Pets For Adoption



Buttercup, 5 Mths



Kiroshi, 1 Yr

This pet has been listed for over 90 days and may already have been adopted. Kindly **notify us** if it is no longer available, to help us maintain an accurate database of pets.

Teddy is an indoor n outdoor. She just lies all the time, feeling relaxed watching the world passes by. I'm looking for a loving home, someone who she can get attached to.

[Pet already adopted? Let us know](#) [Report Abuse](#)


Gallery

Click on photo to view photo gallery, or mouse over for preview

<https://www.petfinder.my/pets/76753/>




Meet Ted




Cat	Domestic Short Hair
Profile	Female, 7 Years 7 Months
Vaccinated	Yes
Dewormed	Yes
Spayed	Yes
Condition	Healthy
Body	Large Size, Short Fur
Color	Black, Gray, White
Location	Kota Damansara , Selangor
Posted	13 Jun 2016
Adoption Fee	FREE

[Shelter ads]

Pets For Adoption



Buttercup, 5 Mths
By UNMCAnimalWelfareSociety




Kiroshi, 1 Yr


[Contacts here]

Teddy is an indoor n outdoor. She just lies all the time, feeling relaxed watching the world passes by. I'm looking for a loving home, someone who she can get attached to.


Check out similar pets for adoption near you




Jooby



Leo



Leo



Tom & two other Kittens



Use image classification to verify breed

Build a model that verifies the breed based on the photo/s uploaded. It will compare the result with the breed/s selected then prompt the user.

Upload Pet Pictures: We strongly recommend uploading at least 1 photo of the pet. Attractive photos will provide a good impression and generate more interested enquiries. More photos and videos can be uploaded once the pet profile is created.

Photo #1: No file chosen

Caption #1:

Photo #2: No file chosen

Caption #2:

Photo #3: No file chosen

Caption #3:

Photo #4: No file chosen

Caption #4:

Photo #5: No file chosen

Caption #5:

Have videos of your pet in action? You can upload them after creating this profile.

[Create Pet Profile](#)



Update the search window

Aggregate KUALA
LUMPUR and
SELANGOR; or

Convert LOCATION into
tick boxes

Refine Your Search

Keyword: Enter the pet's name, breed keyword, or code PFxxxx for a specific pet

Pet Type: ☐ Dog ☐ Cat ☐ Rabbit ☐ Hamster ☐ Fish ☐ Bird ☐ Reptiles ☐ Small & Furry

Breed (Optional): Specify up to 2 breeds you wish to search for. Select Pet Type first.
Breed #1:
Breed #2:

Pet Status: **Age:**

Location:
☒ Malaysia
• Johor
• Kedah
• Kelantan
• Kuala Lumpur
• Labuan
• Melaka
• Negeri Sembilan
• Pahang
• Perak
• Perlis
• Pulau Pinang
• Sabah
• Sarawak
• Selangor
• Terengganu

Search Pets

List Your Pet

Please follow the steps:

1. **Sign Up** for your profile.
2. Proceed to **Create** your pet's profile.
3. Profile will be published after approval.

PetFinder: PetFinder is a free service that helps you find a pet. You can search for pets by location, breed, age, and status. You can also create a profile for your pet and get notified when someone is looking for a pet like yours. You can also adopt a pet from a shelter or rescue organization. PetFinder is a great way to find a pet and get notified when someone is looking for a pet like yours.



Revamp the listing form

- ▷ Ask if the age is unknown; remove auto-aging option
- ▷ Split color section into 2: dominant and other colors
- ▷ Remove mixed option for breed
- ▷ Size at maturity should be based on breed
- ▷ Require reason for relinquishment

Do you know the age of the pet? *

☐ Yes

☐ No

Age in Months *

Please provide an estimate if unknown

Your answer _____

Reason for listing *

☐ Lack of resources

☐ Moving houses

☐ Due to allergies

☐ Other: _____

Dominant Colour *

☐ White

☐ Black

☐ Brown

☐ Other: _____

Other Colors

☐ White

☐ Black

☐ Brown

☐ Other: _____



Thank you for listening!



Appendix



Dataset

Adoption Speed - Categorical speed of adoption:

- 1 - Pet was adopted between 0 and 7 days after being listed.
- 2 - Between 8 and 30 days.
- 3 - Between 31 and 90 days.
- 4 - No adoption after 100 days.

adoption_speed	1	2	3	4	total
breed1_desc					
mixed_breed	932	1566	1366	1999	5863
domestic_short_hair	825	973	696	883	3377
domestic_medium_hair	328	308	210	276	1122
tabby	89	92	63	90	334
domestic_long_hair	95	61	52	45	253
siamese	100	64	40	42	246
labrador_retriever	51	59	61	34	205
persian	87	48	36	28	199
shih_tzu	75	53	34	27	189
poodle	66	46	29	25	166
terrier	31	46	50	32	159
golden_retriever	53	42	33	21	149
calico	25	17	19	38	99
german_shepherd_dog	25	35	22	16	98
beagle	32	15	28	14	89
rottweiler	32	22	22	12	88
spitz	14	24	28	22	88
american_shorthair	23	18	12	34	87
oriental_short_hair	17	14	9	32	72
schnauzer	27	13	16	13	69

adoption_speed	1	2	3	4	total
breed2_desc					
mixed_breed	312	429	470	500	1711
domestic_short_hair	145	161	106	121	533
domestic_medium_hair	100	79	49	62	290
tabby	35	48	24	28	135
domestic_long_hair	35	27	28	29	119
siamese	31	22	21	21	95
terrier	26	17	28	19	90
labrador_retriever	21	22	24	19	86
persian	28	23	10	10	71
german_shepherd_dog	15	22	8	10	55
spitz	5	17	12	13	47
golden_retriever	11	7	11	10	39
rottweiler	19	14	5	1	39
calico	7	10	13	8	38
poodle	17	10	7	4	38
bengal	13	8	7	8	36
shih_tzu	11	10	4	7	32
american_shorthair	10	5	5	9	29
tortoiseshell	6	10	5	3	24
doberman_pinscher	1	6	8	7	22

adoption_speed	1	2	3	4	total
color1_desc					
black	1581	1965	1561	1967	7074
brown	773	939	828	1096	3636
golden	227	270	178	227	902
cream	244	230	182	200	856
gray	177	190	125	161	653
white	183	179	124	163	649
yellow	148	133	141	180	602

adoption_speed	1	2	3	4	total
color2_desc					
white	811	880	753	838	3282
brown	651	923	737	885	3196
cream	264	309	227	281	1081
gray	285	267	197	243	992
yellow	164	227	164	256	811
golden	169	171	146	193	679

adoption_speed	1	2	3	4	total
color3_desc					
white	708	852	643	835	3038
cream	112	91	93	112	408
gray	87	111	66	88	352
yellow	29	43	37	70	179
golden	40	40	32	54	166



Dataset

Dewormed: 1 = Yes, 0 = No or Not Sure

Sterilized (Neutered/Spayed): 1 = Yes, 0 = No or Not Sure

Health: 1 = Healthy, 2 = Minor Injury, 3 = Serious Injury

Size at Maturity: 1 = Small, 2 = Medium, 3 = Large, 4 = Extra Large

Fur Length: 1 = Short, 2 = Medium, 3 = Long

Vaccinated: 1 = Yes, 0 = No or Not Sure

Adoption Speed: Categorical speed of adoption:

- 1 - Pet was adopted between 0 and 7 days after being listed.
- 2 - Between 8 and 30 days.
- 3 - Between 31 and 90 days.
- 4 - No adoption after 100 days.

adoption_speed	1	2	3	4	total
dewormed					
1	1696	2211	1947	2298	8152
0	1637	1695	1192	1696	6220

adoption_speed	1	2	3	4	total
sterilized					
0	2913	3264	2429	2723	11329
1	420	642	710	1271	3043

adoption_speed	1	2	3	4	total
health					
1	3233	3796	3035	3821	13885
2	97	104	94	162	457
3	3	6	10	11	30

adoption_speed	1	2	3	4	total
maturity_size					
2	2072	2764	2297	2852	9985
1	943	847	598	792	3180
3	309	284	234	347	1174
4	9	11	10	3	33

adoption_speed	1	2	3	4	total
fur_length					
1	1779	2310	1923	2494	8506
2	1272	1388	1066	1369	5095
3	282	208	150	131	771

adoption_speed	1	2	3	4	total
vaccinated					
0	2251	2457	1741	2134	8583
1	1082	1449	1398	1860	5789



Credits

- ▷ Dataset from [Kaggle](#)
- ▷ Images by [Petfinder.my](#) and [Unsplash](#)
- ▷ Presentation template by [SlidesCarnival](#)