

PREDICTING ANIMAL ADOPTIONS WITH BINARY CLASSIFICATION MODELS

HOMES FOR THE PET HOMIES

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Malaysia's Stray Animal Problem



\$2.3MM

Management and Euthanasia costs

127,355 MI²

13 States Total, Size of New Mexico



Many factors: legal, religious, political, health

Partner with Malaysia's Ministry of Tourism



www.motac.gov.my

Cats



Dogs

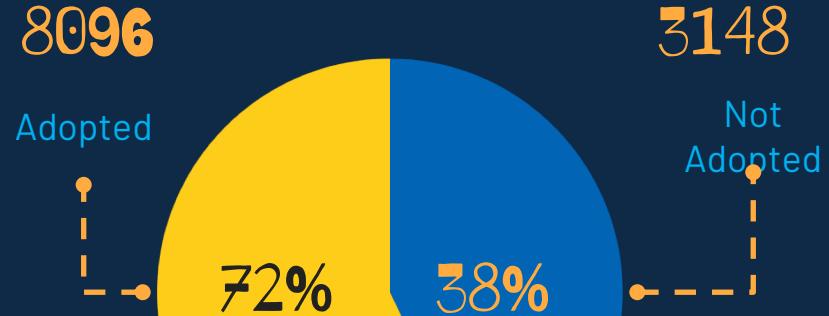
Reduce strays, promote health!

Data Understanding

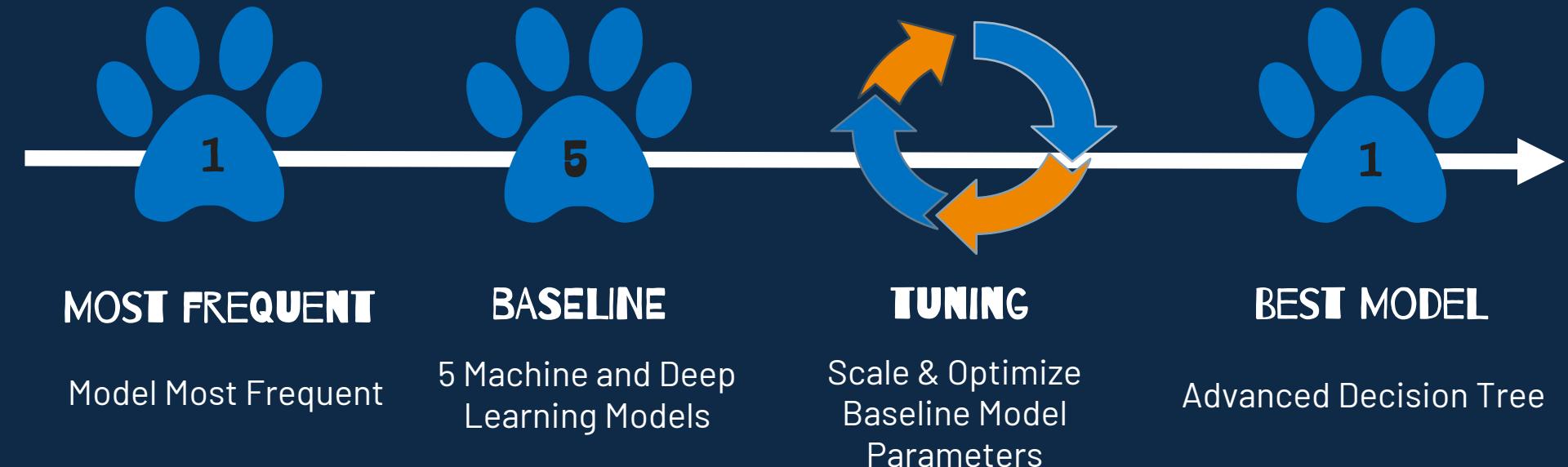


Importance Level	Top Important Features
1	Age
2	Breed
3	Color
4	Amount of Photos
5	Gender

DATA DISTRIBUTION



Modeling



Model Performance



81%

Precision

Accuracy of Predictions



78%

Recall

Overall Positive
Predictions

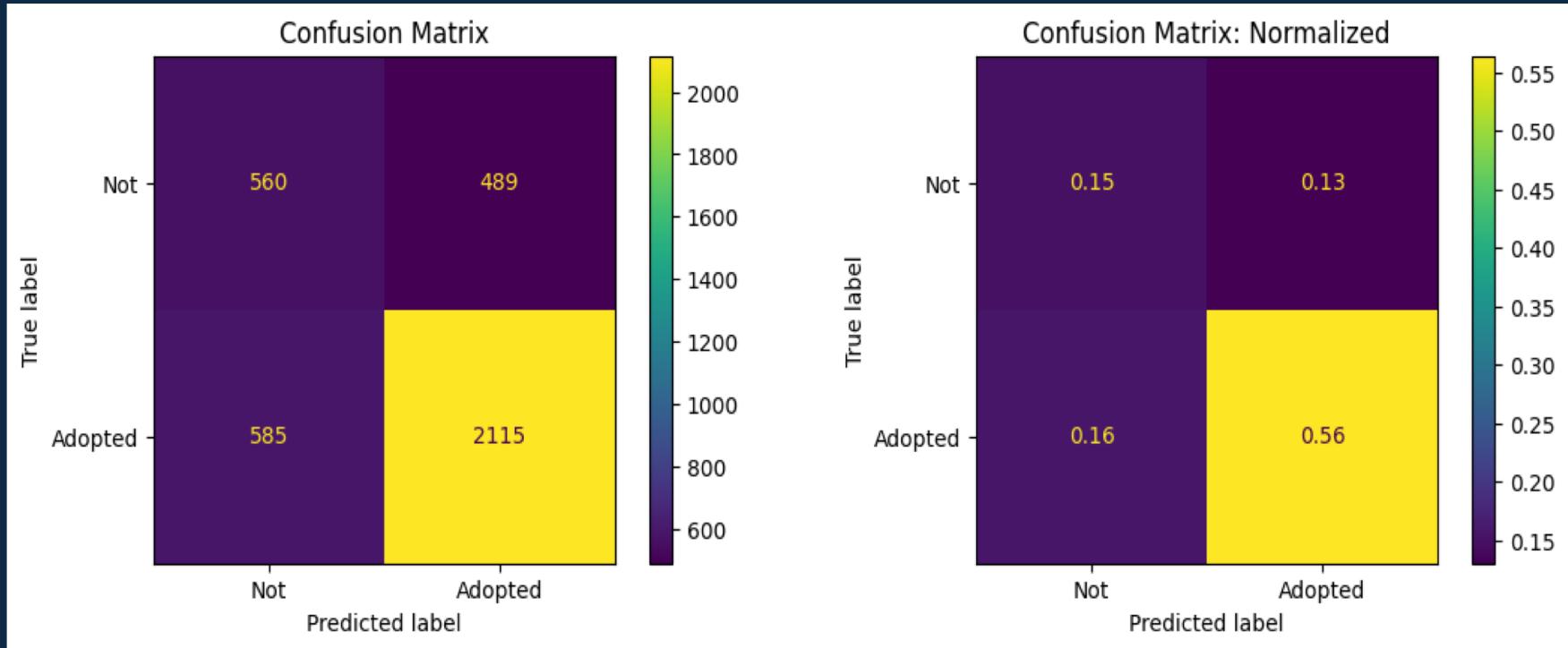


80%

F1-Score

Model Accuracy

Prediction Distributions



Limitations



Data Imbalance

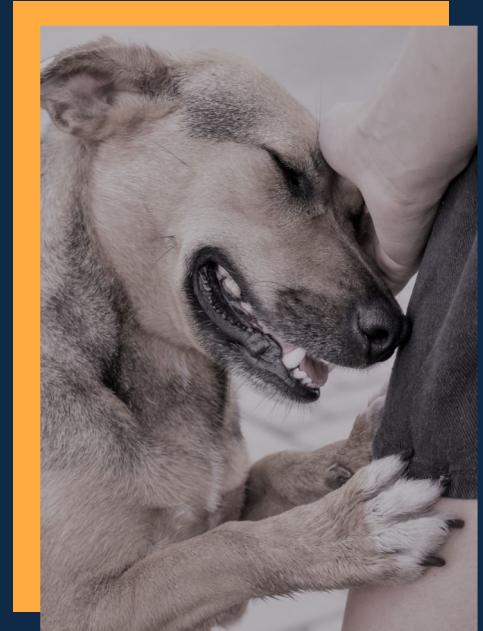
Used synthetic data because of data imbalance

Analysis Scope

Only analyzed tabular numerical data

Resource

Hardware and Time for more model tuning



Recommendations



Apply with a Rescuer

Use model with a rescuer



Prioritize Adoption
Attributes

Prioritize adoption form attributes by
top model features



Acquire Photos

Take photos of all animals to
increase chance of adoption



Plan 16% Cost Margin

Future Work

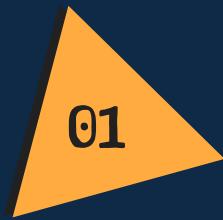


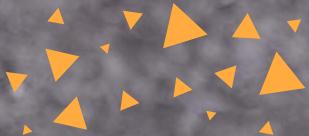
PHOTO ANALYSIS



TEXT ANALYSIS



ATTRIBUTE ANALYSIS



THANKS



Do you have any questions?

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