

Austin Animal Shelter Analysis

A data visualization project

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Pet adoption: a nationwide concern

- Roughly 6.3 million animals enter U.S. animal shelters every year
- Approximately 4.1 million animals are adopted each year, and 810,000 are returned to their owners
- Euthanasia rates are declining, but nearly 1 million animals are euthanized in shelters every year
- Only 23% of dogs and 31% of cats are obtained from an animal shelter or humane society



Animal Shelter Analytics

- 7+ years of data curated by the Austin Animal Center, accessed on Kaggle



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Intakes

Unique ID

Name

Date/Time of Intake

Found Location

Intake Type

Intake Condition

Animal Type

Sex (+ s/n) Upon Intake

Age Upon Intake



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Outcomes

Unique ID

Name

Date/Time of Outcome

DOB

Outcome Type

Outcome Subtype

Animal Type

Sex (+ s/n) Upon Outcome

Age Upon Outcome



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Intakes

Unique ID
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Date/Time of Intake
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Outcomes

Unique ID
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DOB
Outcome Type
Outcome Subtype
Animal Type
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Age Upon Outcome

Stray Map

Unique ID
Found Location
At Shelter? (binary)
Intake Date
Animal Type
Observed Breed
Color
Sex (+ s/n)
Age
Image Link



Goals of the analysis

Intake

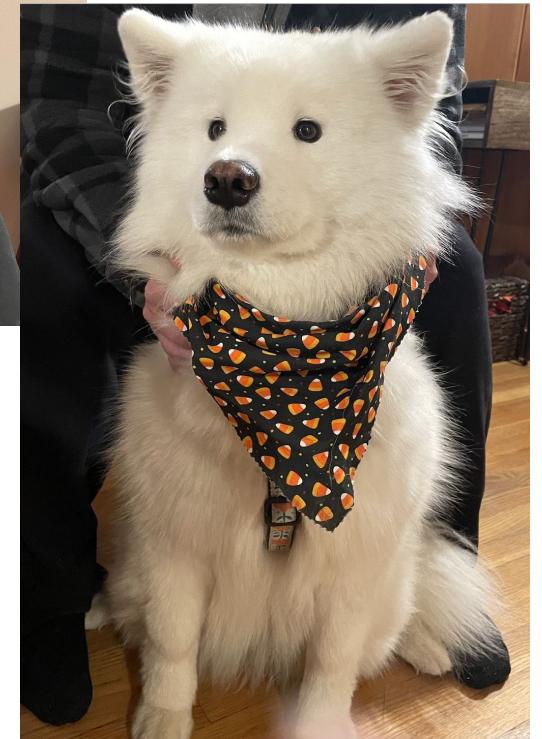
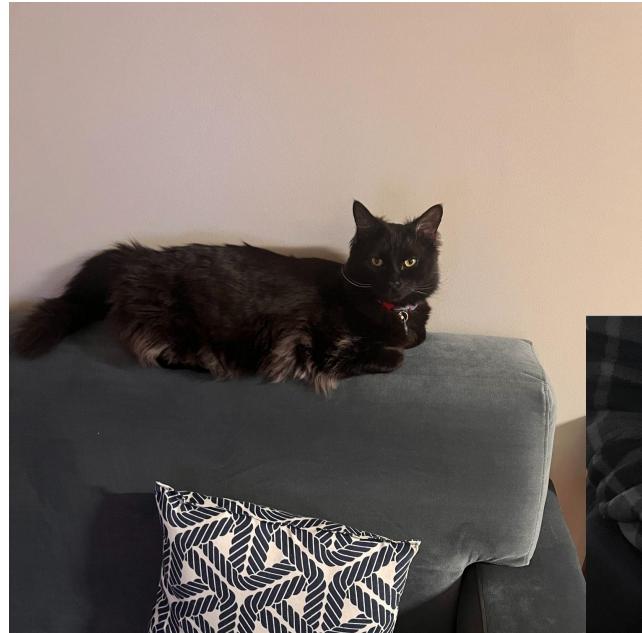
- Types, Conditions, Ages
- Austin, TX map

Outcome

- Outcome by animal type
- Outcome trends

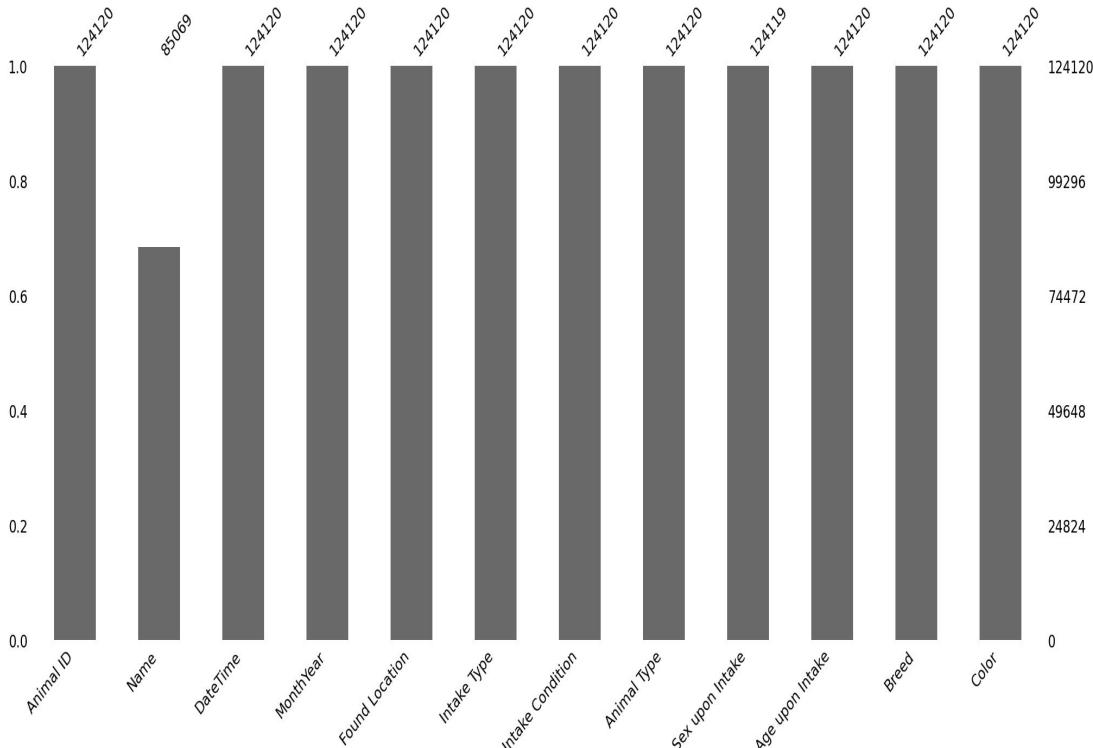
Trends

- Predict surges in intake (seasonal or otherwise)
- Adoption Forecast

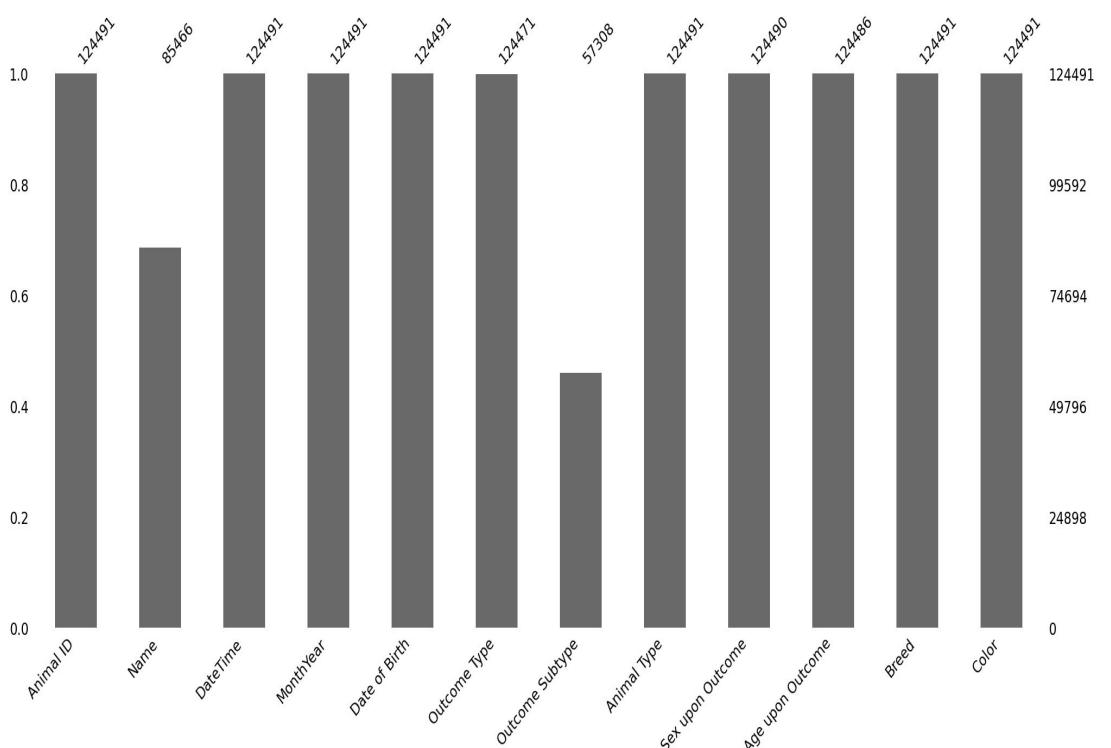


Exploratory Data Analysis

Intake Data Missingness

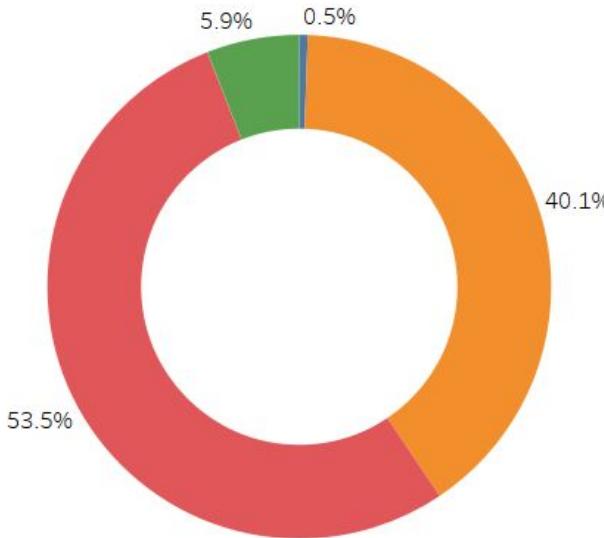


Outcome Data Missingness



Exploratory Data Analysis

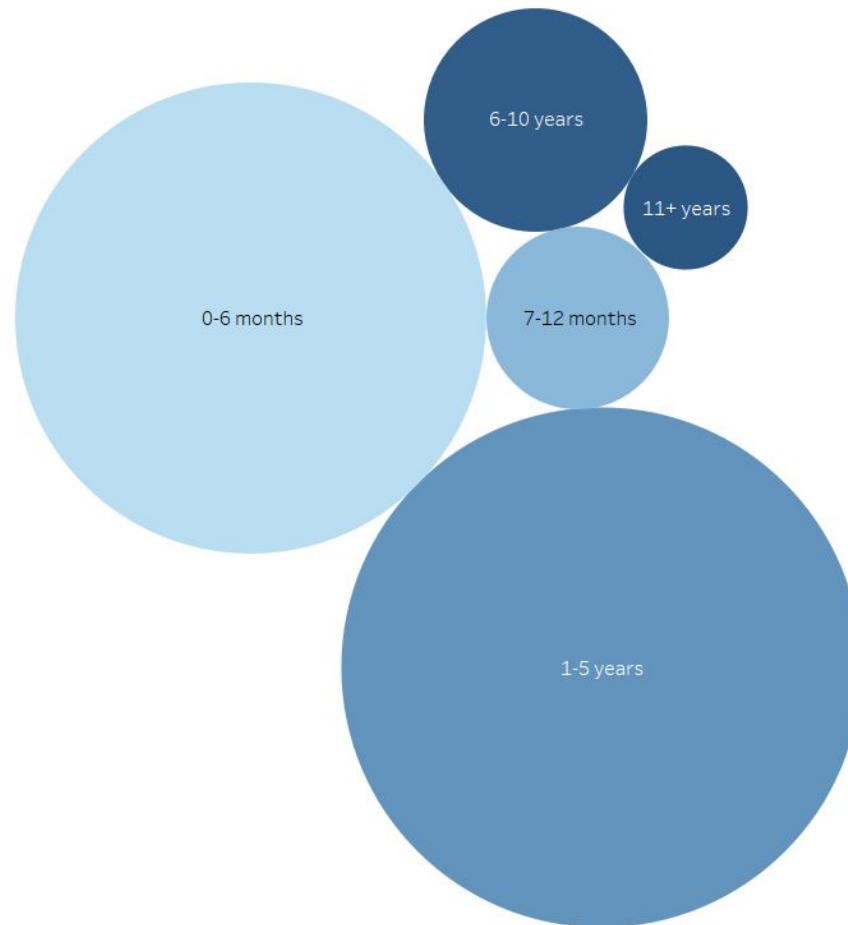
Animal Types



Animal Type (Austin Animal Center Outcomes.csv)

- Bird
- Cat
- Dog
- Livestock
- Other

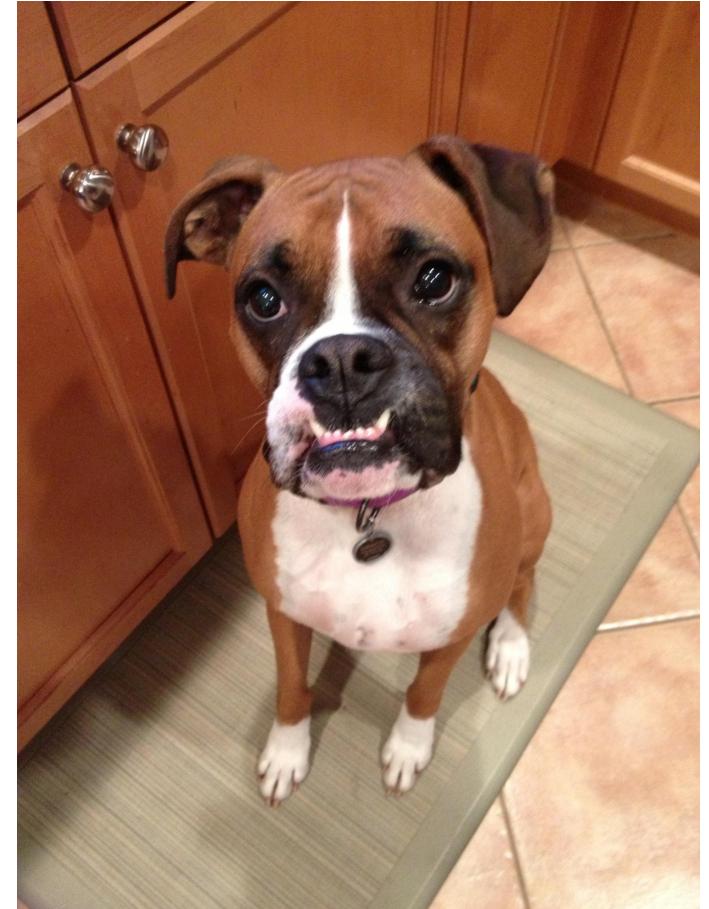
Age Upon Intake



- Age upon Intake (group)
- 0-6 months
 - 7-12 months
 - 1-5 years
 - 6-10 years
 - 11+ years

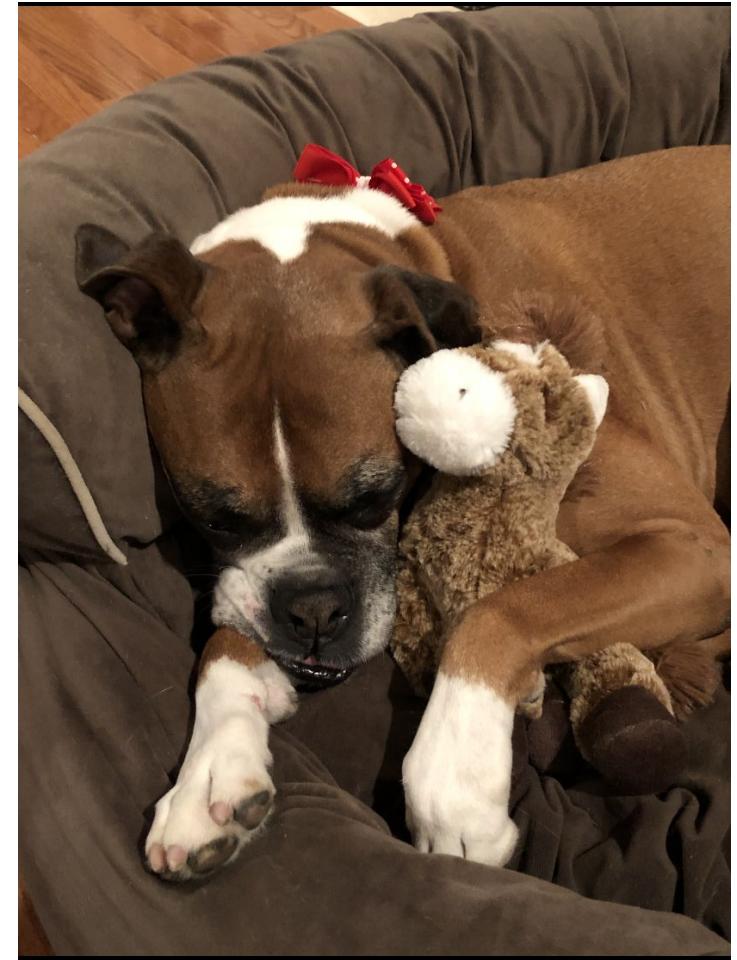
Takeaways

- Many intakes are young animals (0-6 months)
 - Responsibilities of young pets
- Outcomes show educational outreach needed for pet owners
 - lessen returns of animals
 - enhance pet care
- Transferred animals
 - shelter at-capacity
- Euthanasia
 - Relatively low rates (10%) compared to national average (17%)
- Analysis also shows that shelter worked through pandemic despite challenging circumstances
 - staff appreciation



Next Steps

- Apps for the shelter - RShiny and Tableau
 - Adoption widget for prospective pet owners
 - Dashboard for animal shelter utilizing outcome data and trends
- Do more analysis on negative outcomes
 - Euthansia
 - Died
 - Disposed
- Guidelines for un-adopted animals
- Forecast Line
 - Add terms to forecast model to account for recovery after the pandemic and improve forecast accuracy





Thank you!
Questions?

