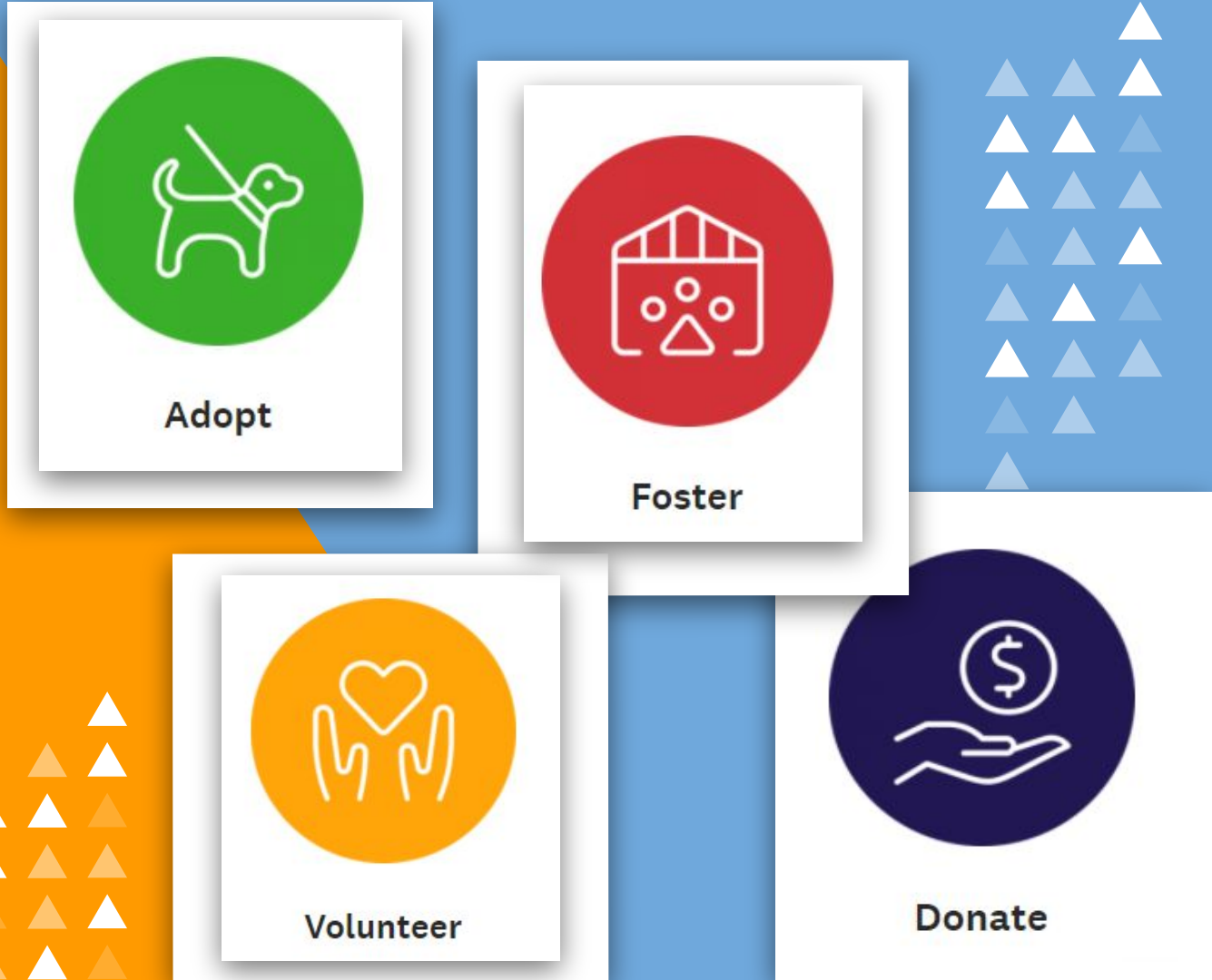
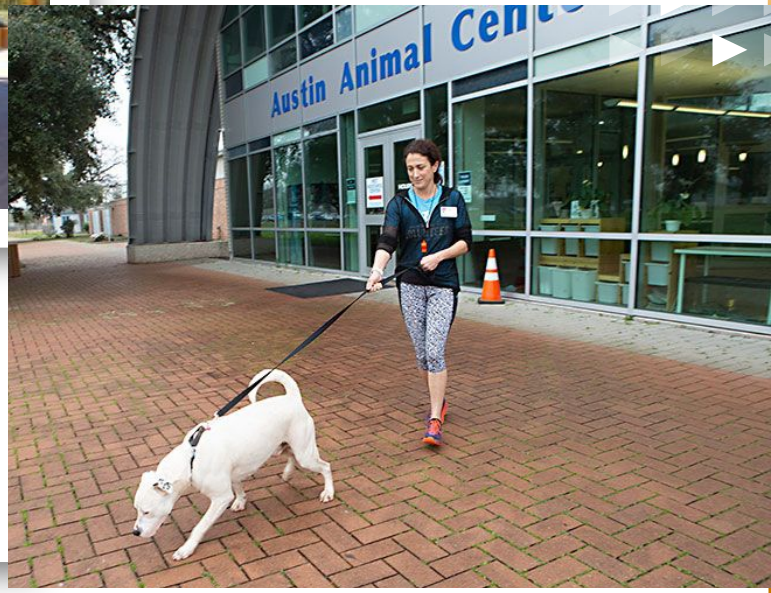
Austin AniML Rescue



Reason



This project studies data from the [Austin Animal Center](http://www.austintexas.gov/content/austin-animal-center) in Austin, TX.

- Help the Austin Animal Center better understand information on their animals

There are two datasets posted by the Animal Center as csv files:

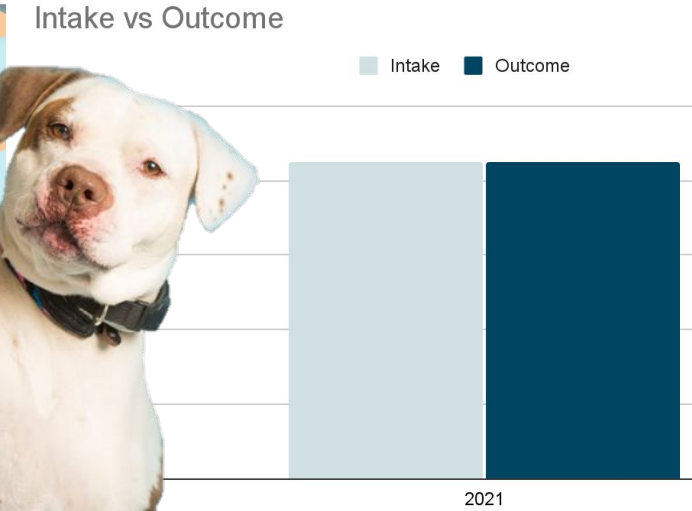
Data Source Description

Intakes (information on animals brought to the shelter) and outcomes (information on animals when they leave the shelter).

We have One main questions that we are interested in answering, along with related subquestions.

- Question : Can we predict the outcome for an animal based on other characteristics?

- What are the possible outcomes that we should consider?
- What factors most influence the determination of the outcome?



Intakes

81%

Remained after duplicate Animal ID's dropped from dataset

- Initial file contained 130,617 rows data.
- 106,233 remain .
- Duplicated animal ID due to animal recurrinly leaving owner .

Outcomes

81%

Remained after duplicate Animal ID's dropped from dataset

- Initial file contained 130,647 rows data.
- 106,266 remain .

The beginning

Preliminary Machine Learning Model

For predicting the animal outcome, our current sketch of our pipeline is to move from the SQL data into Python for cleaning, splitting into the training and testing sets, and then utilize a Random Forest Classifier.

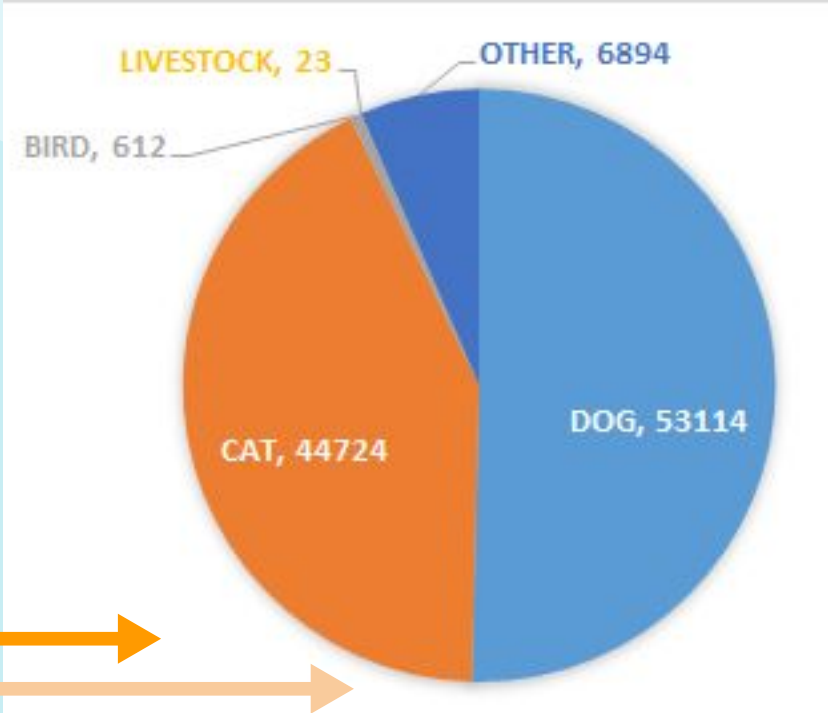
Description of the data exploration phase of the project

The data exploration for the Austin Animal Rescue on this phase of the project started by focusing on the database.

	animal_id	animal_name	animal_type	breed	color	intake_type	date_of_birth	intake_date	found_location	intake_condition	sex_upon_inta
0	A786884	*Brock	Dog	Beagle Mix	Tricolor	Stray	2017-01-03	2019-01-03	2501 Magin Meadow Dr in Austin (TX)	Normal	Neutered Male
1	A682524	Rio	Dog	Doberman Pinsch/Australian Cattle Dog	Tan/Gray	Stray	2010-06-29	2014-06-29	800 Grove Blvd in Austin (TX)	Normal	Neutered Male
2	A696408	*Pearl	Dog	Chihuahua Shorthair	Tricolor	Stray	2013-02-04	2015-02-04	9705 Thaxton in Austin (TX)	Normal	Intact Female
3	A736287	*Twilight	Cat	Domestic Shorthair Mix	Torbie	Stray	2016-08-08	2016-10-08	South First And Stassney in Austin (TX)	Normal	Intact Female
4	A810994	NaN	Other	Bat	Brown	Wildlife	2017-12-24	2019-12-25	7900 Rm 1826 Rd in Travis (TX)	Normal	Unknown

This informations helps to see what data was available to explore deeper.

Description of the data exploration phase of the project



After getting the database, we filtered the information by animal type. The goal was to understand the data, such as the kind of animals, intake type and outcome type. As well as intake condition and sex and the kinds of breeds (dogs, cats, and other animals)

Description of the analysis phase of the project

		outcome_subtype
outcome_type	outcome_subtype	
Adoption	Foster	9975
	Offsite	309
	Barn	3
Died	In Kennel	605
	In Foster	281
	At Vet	87
	Enroute	86
	In Surgery	24
Euthanasia	Rabies Risk	3845
	Suffering	3265
	Aggressive	403
	Medical	305
	At Vet	177
	Behavior	124
	Underage	36
	Court/Investigation	13
Missing	In Foster	21
	In Kennel	14
	Possible Theft	7
Return to Owner	Field	45
	Prc	9
	Customer S	7
Transfer	Partner	29595
	SCRP	2942
	Snr	2612
	Out State	14
	Barn	7
	Emer	5

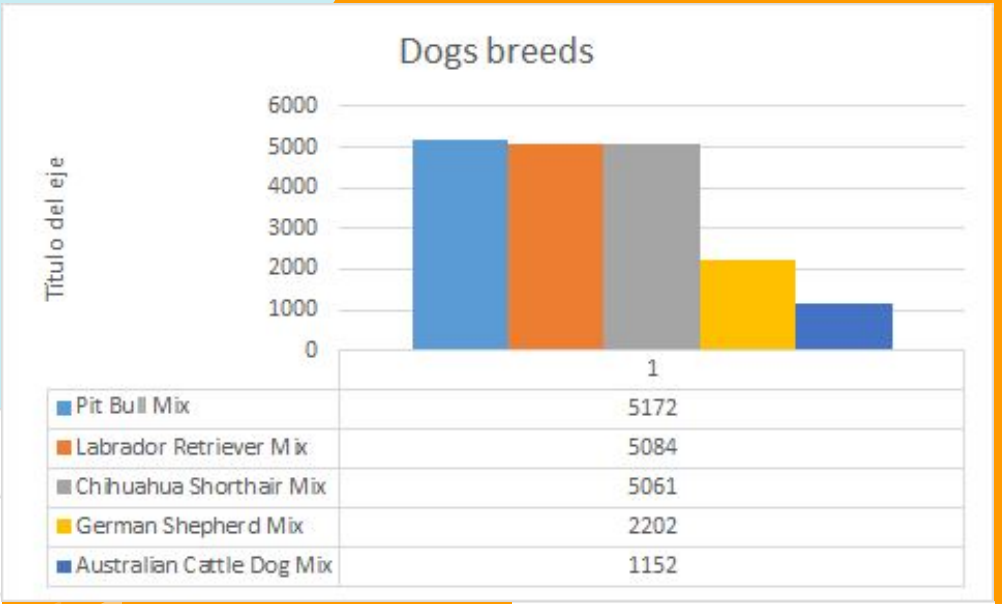
The data show the outcome type of the animals : Adoption, die, euthanasia, missing, return to the owner and transfer .
There are 9975 animals that ended being adopted .

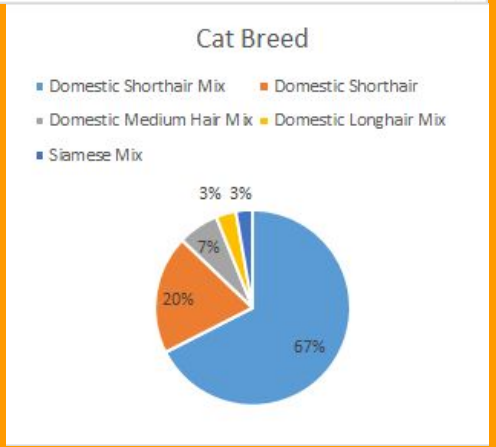
The data show the income type of the animals Abandoned, Euthanesia requested, owner surrender, public assist, stray and wildlife, however 34046 animals were take back from being adopted

Description of the analysis phase of the project

		outcome_type
intake_type	outcome_type	
Abandoned	Adoption	216
	Transfer	172
	Return to Owner	41
	Euthanasia	5
	Died	4
	Rto-Adopt	3
	Disposal	2
Euthanasia Request	Euthanasia	190
	Transfer	28
	Adoption	8
	Return to Owner	4
	Died	3
	Disposal	2
Owner Surrender	Adoption	9804
	Transfer	5744
	Return to Owner	734
	Euthanasia	610
	Died	154
	Rto-Adopt	142
	Disposal	14
	Missing	7
Public Assist	Return to Owner	3509
	Transfer	886
	Adoption	838
	Euthanasia	323
	Disposal	57
	Died	45
Stray	Adoption	34046
	Transfer	28285
	Return to Owner	10238
	Euthanasia	2772
	Died	849
	Rto-Adopt	288
	Disposal	121
	Missing	45
	Relocate	10
Wildlife	Euthanasia	4501
	Disposal	397
	Died	140
	Transfer	60
	Relocate	14
	Adoption	7
	Missing	2
	Return to Owner	1

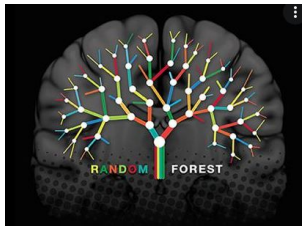
Graph Analysis per Animal breed





Technologies, languages, tools, and algorithms used throughout the project

Technologies



Languages

Tools & algorithms

Result of analysis

Result 02

Result 01

Recommendation for future analysis

Recommendation 01

Recommendation 02

Recommendation 03

Anything the team would have done differently ?

Communication Protocol

The roles will change during the final project so that each member has the opportunity to learn about each piece of the project and practice the related skills.

- **Role 1:** Repository management. This team member leads efforts to maintain the GitHub repository, including resolving merge conflicts, and help keep the main branch as the source of our most recent working code. This person also updates the Readme.md file on the main branch as changes are made to the GitHub repo.

- **Role 2 :** Project management. This team member leads the efforts for knowing what deliverables are required for the UT Bootcamp at each stage and assuring that the work the team is doing leads to successful fulfillment of the deliverables. This includes comparing the work to the rubric requirements as posted for class and helping to decide which technologies are used at each step of the project.

Communication Protocol

- **Role 3:** ML modeling. This team member works on the coding aspect of the ML model as well as data cleaning and exploratory data analysis.
- **Role 4:** Database & Dashboard management. This team member maintains and updates the database (PgAdmin 4) as needed and leads the efforts for creating and maintaining our final dashboard.
- **Role 5:** Presentation management. This team member writes the presentation files and helps other team members as needed.