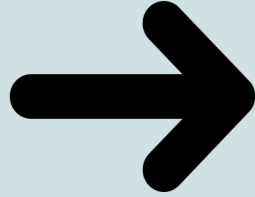
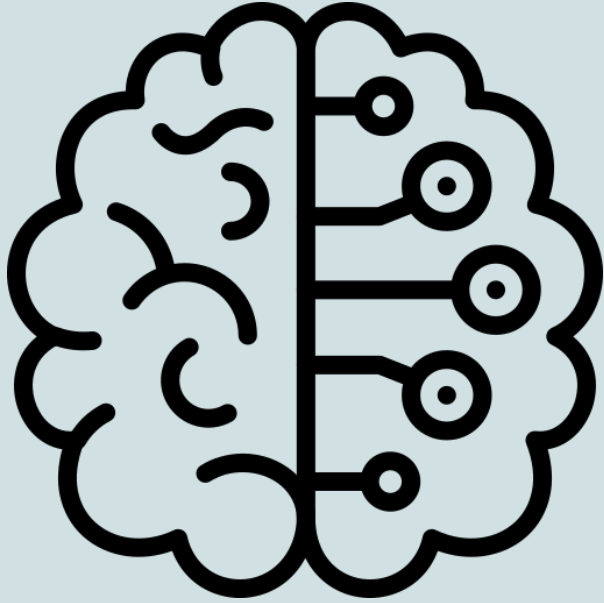


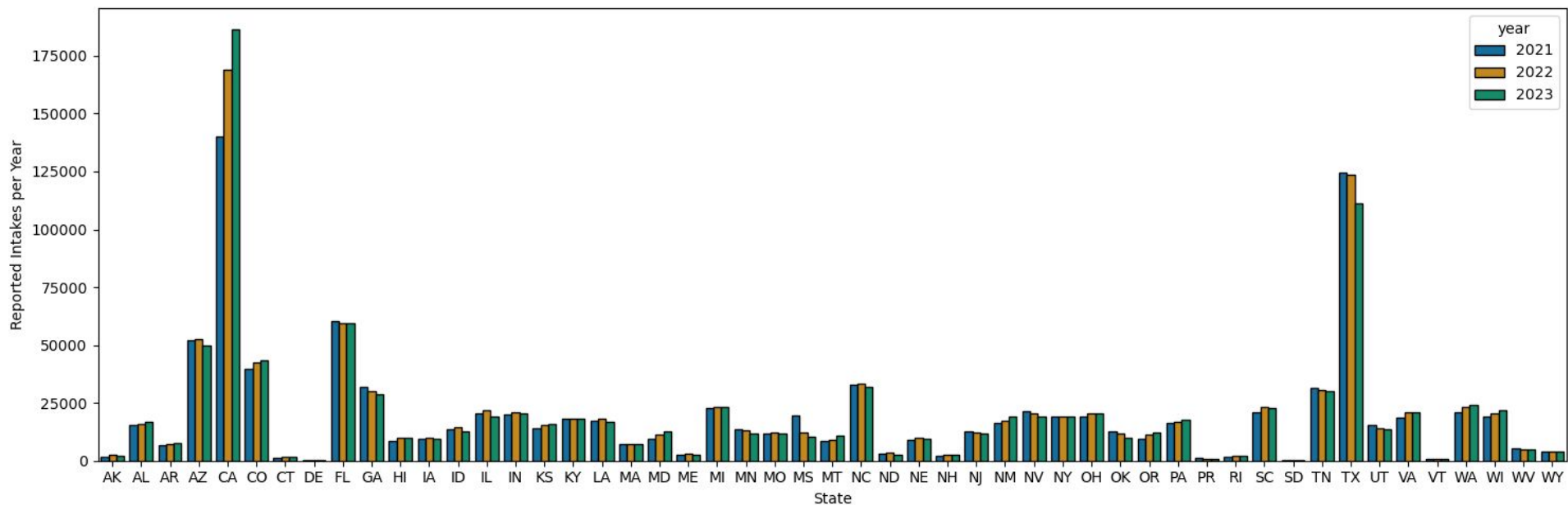
# Doggy Doggy What Now?

## Using ML to Predict Animal Shelter Movement

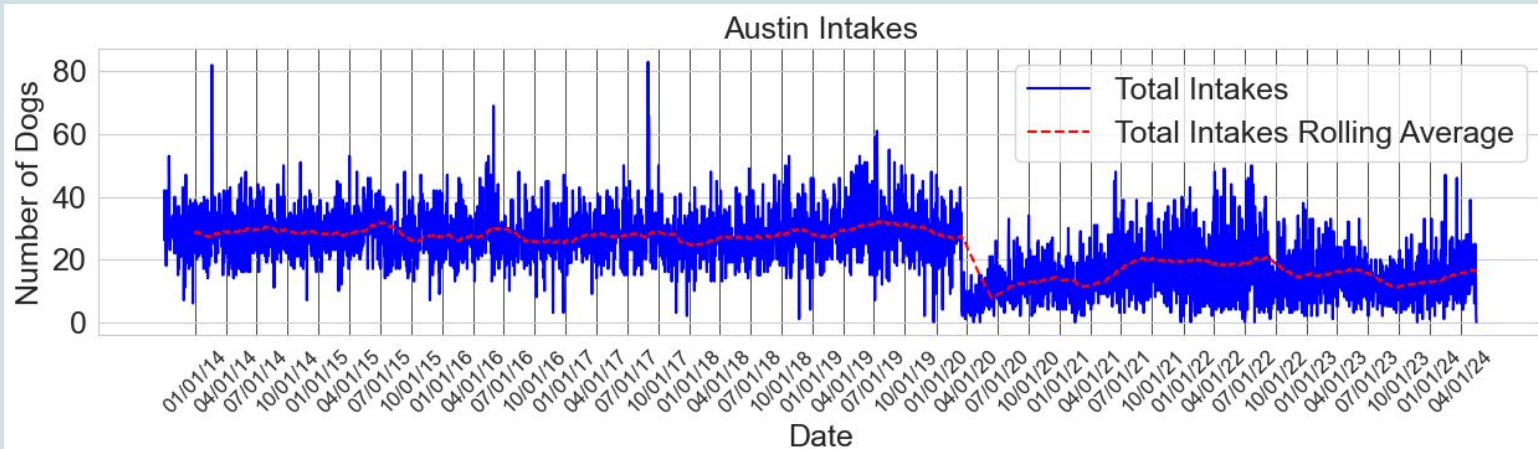
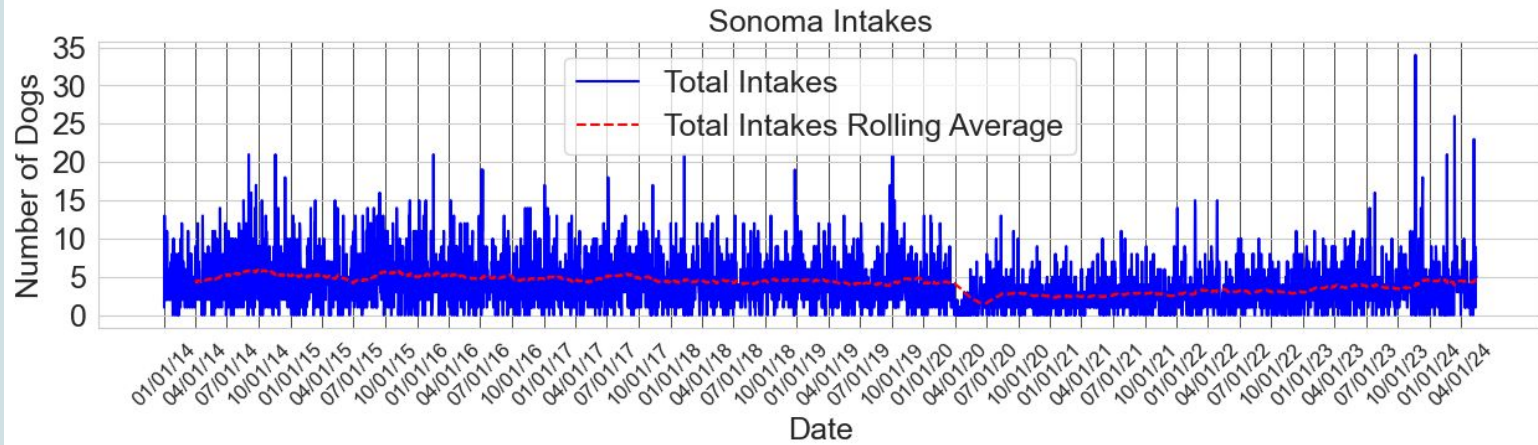
John P. Harden   Angela Kubena   Jun Bo Lau   Claire Merriman   Robert Young



# National Data

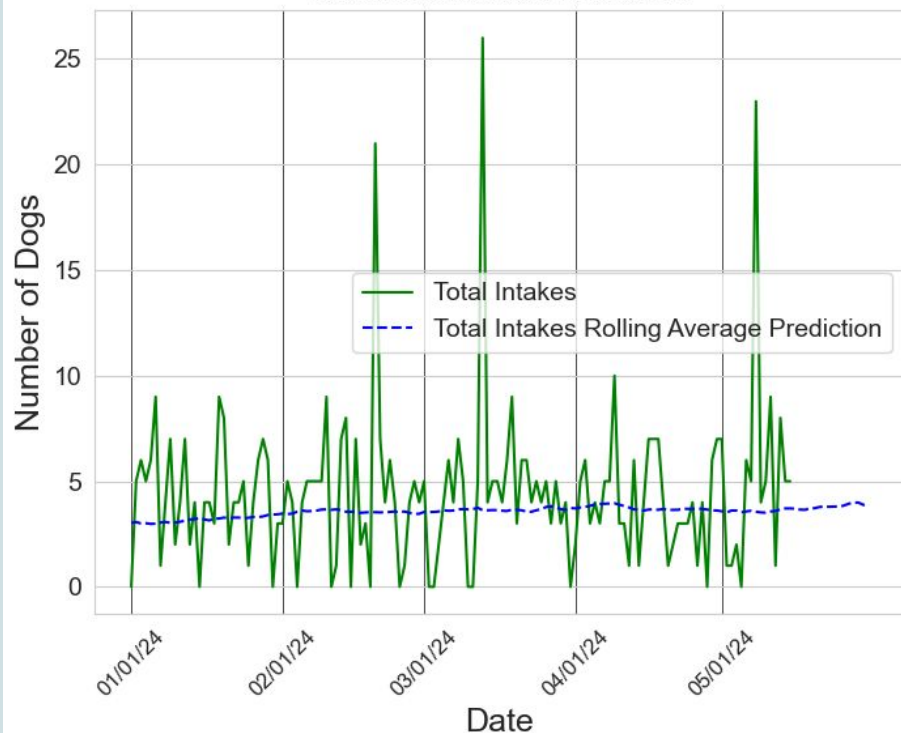


# Sonoma County, CA and Austin, TX Data

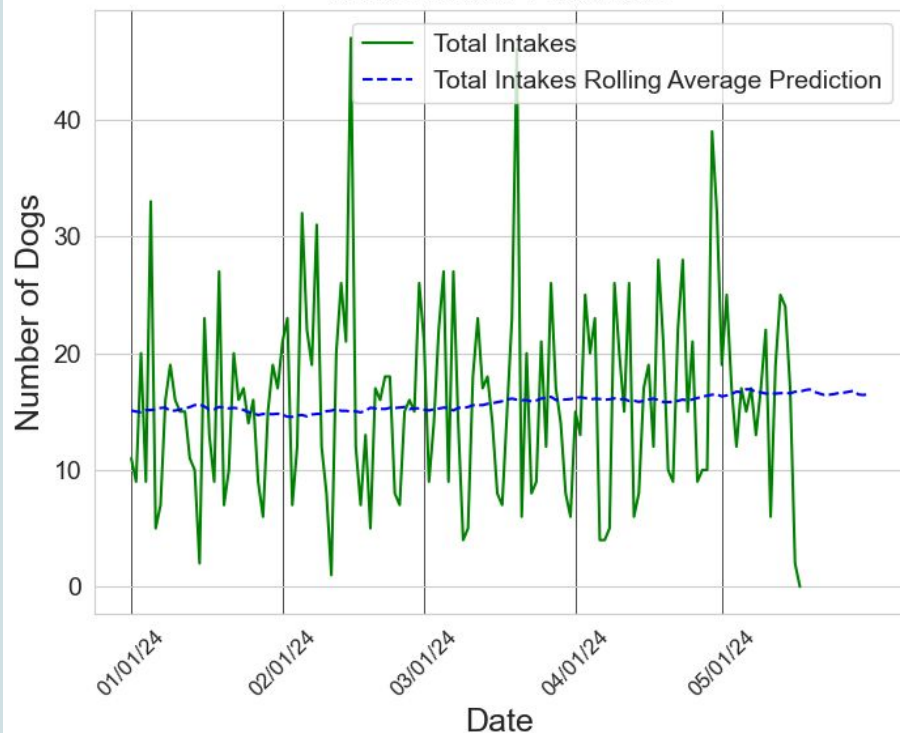


# Rolling averages prediction

Sonoma Intake Prediction



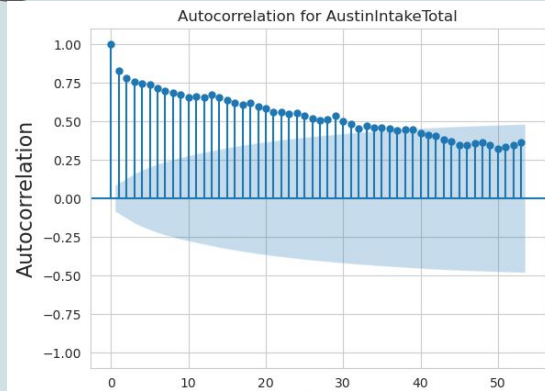
Austin Intake Prediction



# (S)ARIMA?

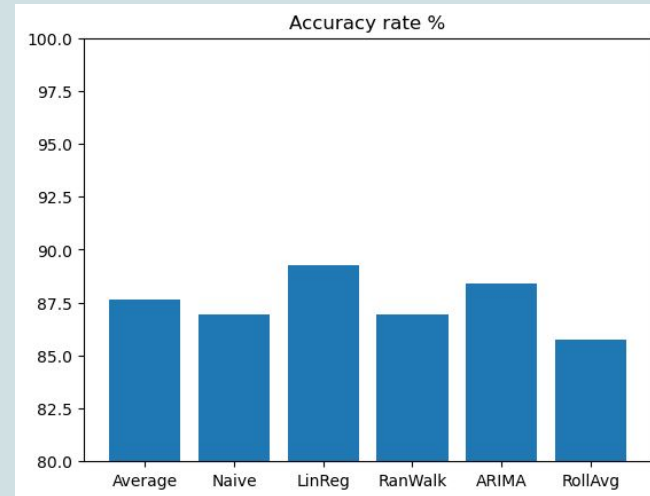
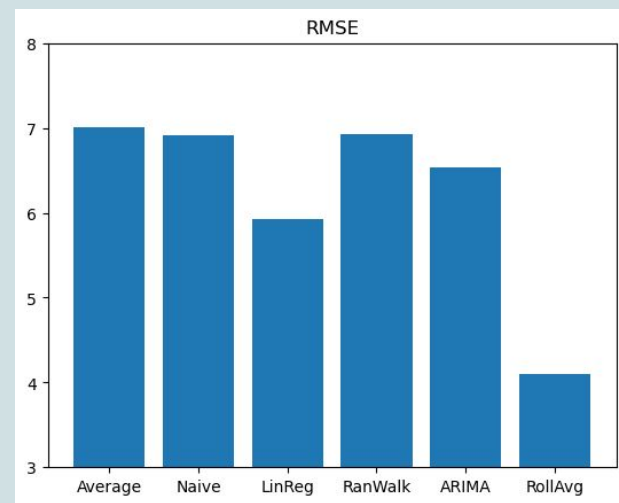


```
AustinIntakeTotal
ADF Statistic: -1.6692019268274696
p-value: 0.4470463181311345
Critical Values:
    1%, -3.442843345332837
Critical Values:
    5%, -2.867050445147657
Critical Values:
    10%, -2.5697048674984457
```



# Performance Comparison

	Daily	Weekly	Monthly
Lowest RMSE	Rolling average	Naive/random walk/ARIMA	Linear regression
Accuracy rate (= 1 - NMRSE)	Linear regression (~90%)	Naive/random walk/ARIMA (~90%)	Naive (~92.5%)







Not the end of the tale/tail... (oof/woof)

