Adoptable Pets Project Summary

Jismi Mathew - CMP-262-86511

This project analyzes a public dataset of adoptable pets to identify patterns that may help animal shelters better understand their shelter population and improve adoption planning. The dataset used in this analysis was obtained from Data.gov and contains records of animals currently available for adoption. Each record represents an individual animal and includes attributes such as animal type, size, age, and intake information.

Before conducting the analysis, the dataset was cleaned to ensure accuracy and consistency. Column names were standardized to make them easier to reference in Python, unused location information was removed, and age values were converted from text to numeric format. Intake dates were also converted to a datetime format so they could be used consistently in analysis. These steps ensured the data was well structured and suitable for exploratory analysis.

The analysis focused on four key questions. First, it examined which types of animals are most common in the shelter. The results showed that cats make up the largest share of animals, followed closely by dogs. Other animals and birds appear only rarely, indicating that the shelter primarily serves cats and dogs.

Second, the analysis explored whether pet size varies by animal type. Dogs showed the widest range of sizes, while cats were mostly small to medium. This difference highlights the need for varied space and resources, particularly for larger dogs.

The third question analyzed the age distribution of animals in the shelter. Most animals were between one and four years old, with relatively few senior animals. This suggests the shelter population is largely composed of young adults, which are generally considered more adoptable.

The fourth question examined how age varies by animal type. Cats showed a wider age range than dogs, including some older animals, while dogs were more consistently young to middle-aged.

Overall, the analysis shows that cats and dogs make up the majority of the shelter population, with dogs displaying the greatest variation in size and cats showing the widest range of ages. These insights can help shelters focus adoption efforts and resources on the groups that need them most. A potential client for this analysis would be an animal shelter or national pet adoption organization seeking to improve adoption outcomes and reduce overcrowding. Future work could include analyzing adoption outcomes, length of stay, or breed-level trends using a larger or multi-shelter dataset.