

## **1 Motivation**

I want to develop a computer vision-based classifier to accurately distinguish between different breeds of dogs and cats.

Problem I am trying to solve

- Tedious manual classification and accuracy issues with manual classification
  - Challenge for animal shelters:
    - Accurate and efficient classification of the large numbers of breeds of dogs and cats within their care
    - Crucial for maintaining accurate and searchable records on pet adoption websites and for helping potential adopters find the right pet that matches their preferences
  - Manual classification challenges:
    - Prone to human error and inconsistencies.
    - Demands substantial time and attention from staff who are already stretched thin due to frequent staff shortages.
    - Delay the listing process, extending the time animals spend in shelters

Motivation behind my project

- Save Time and Resources:
  - Automating the classification process frees up staff and volunteers, allowing them to devote more time to direct animal care and other critical tasks, rather than the manual and time-consuming activity of sorting and labeling photos.
- Increase Adoption Rates:
  - By providing accurate and immediate breed identification, potential adopters can easily find breeds that match their preferences, enhancing the likelihood of adoption.

Why my project is relevant

- Animal Shelter Staff and Volunteers:
  - Increase efficiency when trying to accurately classify pictures of large numbers of dogs and cats for adoption on pet adoption websites
  - Thus, animal shelter staff, who are often already overwhelmed with animal care due to staff shortages, would not have to do such tedious classification manually.
- Potential adopters
  - Ensures the pet listings potential adopters view are accurate and relevant
  - Reduce the effort required to find a pet that meets their expectations, increasing likelihood of successful matches