Milestone 1:
Team Tyrannosaurus: Dylan Painter, Shirley Qi, Vicky Xie, AJ Reiter

Current State of the Project:
- The dataset has been created, with at least 50 pictures per pokemon. The images have been cleaned to match the following specifications. (The main point is that they need to be recognizable as the pokemon in question. These requirements are just a formal write up to prevent confusion)
    - The picture contains only the pokemon it is for. No other pokemon are allowed in the picture unless it is the same pokemon.
    - The image should be faithful to the original design of the pokemon. This means realistic versions of the pokemon (the kind that makes them really hard to actually recognize) or any image that reimages the pokemon are not allowed (For example, Pokemon that are redrawn with new features). Small changes that don't change much, like colour changes (or shiny pokemon) are allowed, assuming it does not prevent the recognition of the pokemon. (For example, the pokemon Pidgeotto and Pidgeot should be more strict with colors due to the similarity between the two: colors are the biggest change between them)
        - This also means no different version of the same pokemon, like mega evolutions, Giga evolutions, or any other things that change the shape of the pokemon, even if it is technically the same pokemon.
    - The pokemon should make up a relatively large portion of the image, about 1/8 or so at the smallest.
    - Real-life creations of pokemon (such as keychains or plushies) are allowed as long as they are recognizable as the Pokemon.
    - Pokemon can wear clothes, such as hats, scarfs, or other accessories, as long it does not prevent the recognition of the pokemon
- Image folders have been organized such that the images of each pokemon can be easily loaded into a dataset for training and testing using the ImageFolder function, similar to assignment 2

Feature changes to the proposal:
(justification isn't a requirement for M1, but we put it anyways)
1. The number of images has been dropped from the original plan of 300 to 50. This was changed due to the small number of unique images that could be found. Most images found were the same as others found, or did not meet the requirements. To help machine learning, we plan to use image enhancement to increase the number of different images.
2. The original project said the words "I will create an image classifier/object detector". The words "object detector", after talking to the original creator of the proposal, are taken to mean the same thing as an image classifier, as they thought it was just the same thing as an image classifier. The other option was to make the project figure out the bounding boxes of the image being given. This change would have required us to make bounding

boxes for every image in the dataset, which is at least 50 images per pokemon * 75 pokemon = 3750 images at least. Assuming it took 1 minute per image, that would be 62.5 hours at least. This was considered to be unreasonable for this project.
3. Where the images came from: The project proposal only mentioned using a bing scraper in order to get the images of pokemon. Due to the lack of unique images, the images were obtained from a variety of sources to get more, including but not limited to...
    - Google images
    - Bing images
    - https://www.kaggle.com/thedagger/pokemon-generation-one
    - https://www.kaggle.com/brkurzawa/original-150-pokemon-image-search-results

Current Challenges and Bottlenecks:
- There are only ~50 images per pokemon. This may not be enough to tell apart pokemon. We plan to use image enhancement (such as flipping the pokemon) to increase that number, but it still might not be enough. We might be able to find some more images of pokemon by going through some art sites, but if that is still not enough, then we plan to decrease the number of pokemon the program will be able to tell apart. It is unlikely we will get to that point though.

Completed and Ongoing Tasks:
Each partner has downloaded images of the pokemon. The following is the IDs of the pokemon each partner completed:
Dylan: 1-18
Shirley: 19-37
AJ : 38-56
Vicky: 57-75
In addition, Dylan wrote the rough draft of this paper, while others edited it for clarity and correctness.

No tasks are currently part way through completion. The next tasks to complete are getting the website doing something, and creating the machine learning program.