POKEMON DATASET ANALYSIS

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Introduction

I analyzed the Pokemon Dataset, containing 1017 pokemon, from generations 1 through 8. I analyzed types, moves, height and weight, generations, rank, and much more to find interesting trends throughout the dataset.

Figure 1

The majority of Pokémon have their HP, ATK, DEF, SPATK, SPDEF, and SPEED stats centered around the 50-75 range. This indicates a consistency in the distribution of base stats across Pokémon.

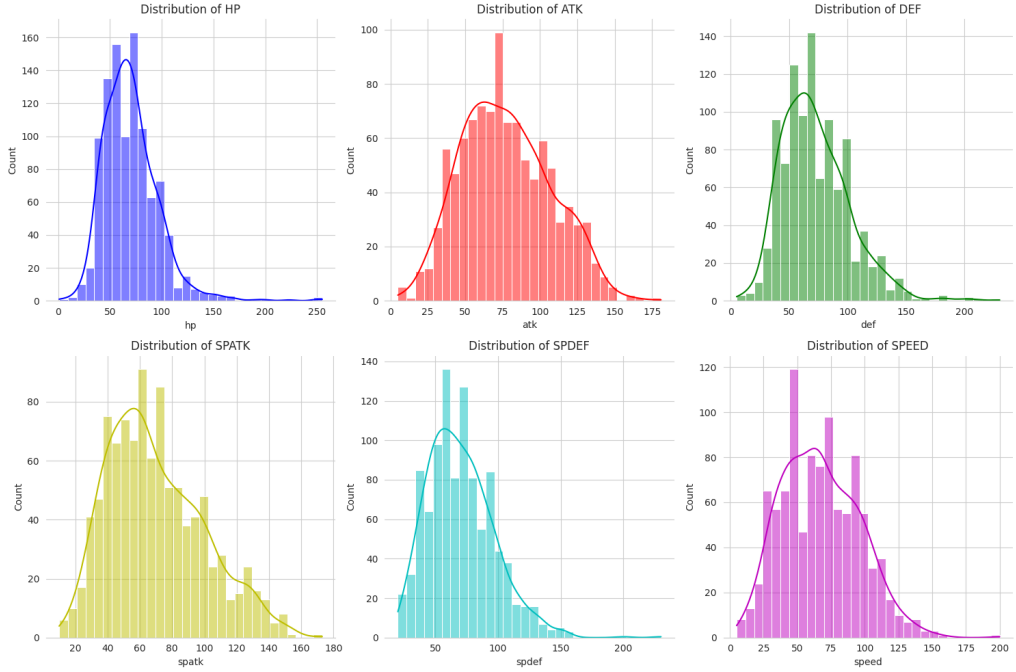


Figure 2

This graph shows the expansion of the Pokemon universe over time (generations). It shows that Each generation has around 100 new pokemon, with generations 1 and 5 having around 150 new pokemon , while generation 6 had around 70 new pokemon added.

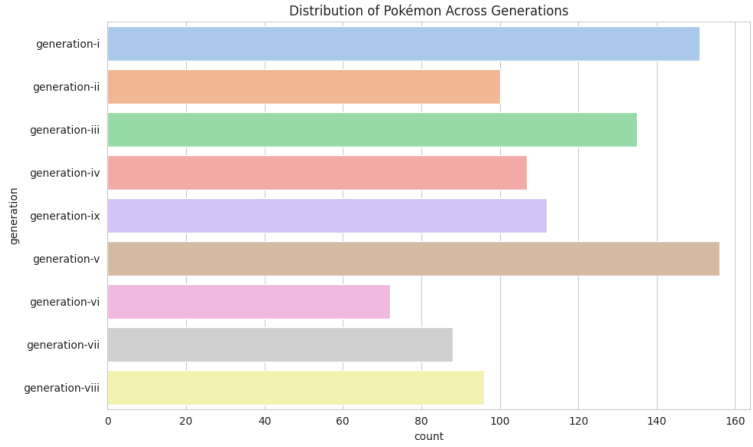
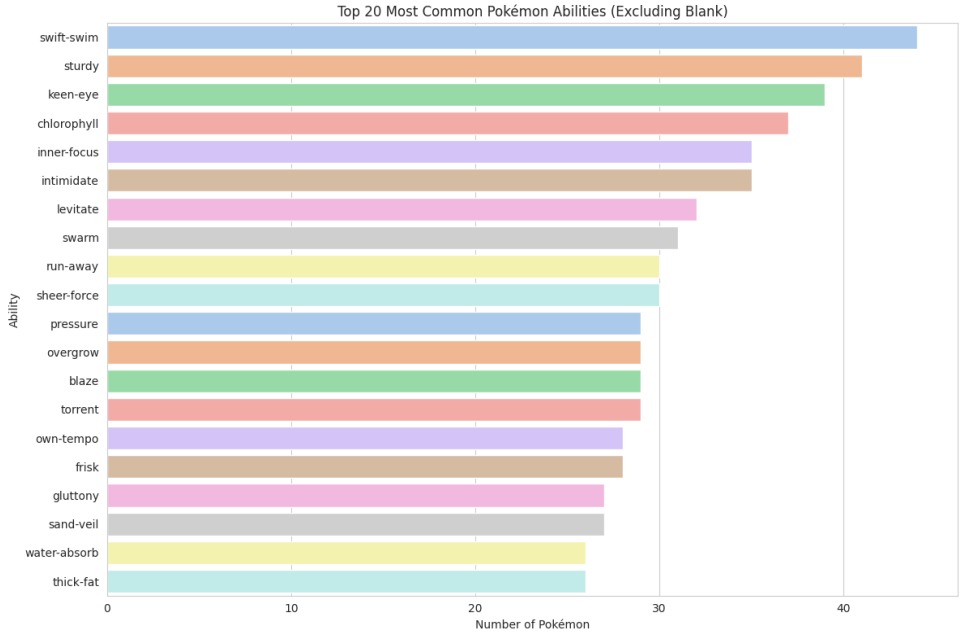
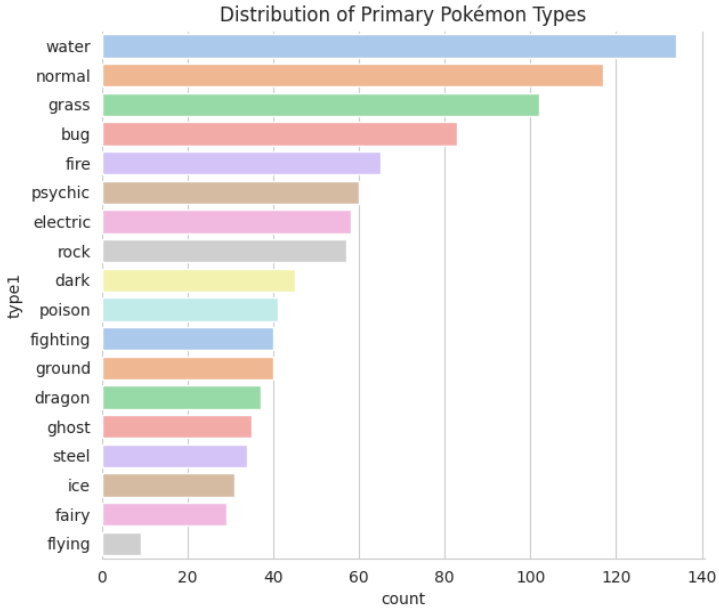


Figure 3



A bar chart of the top 20 abilities showcased the most prevalent abilities in the Pokémon universe. This visualization can help trainers strategize their battles, knowing which abilities they might encounter frequently. I found that swift swim is the most common ability among the Pokemon universe.

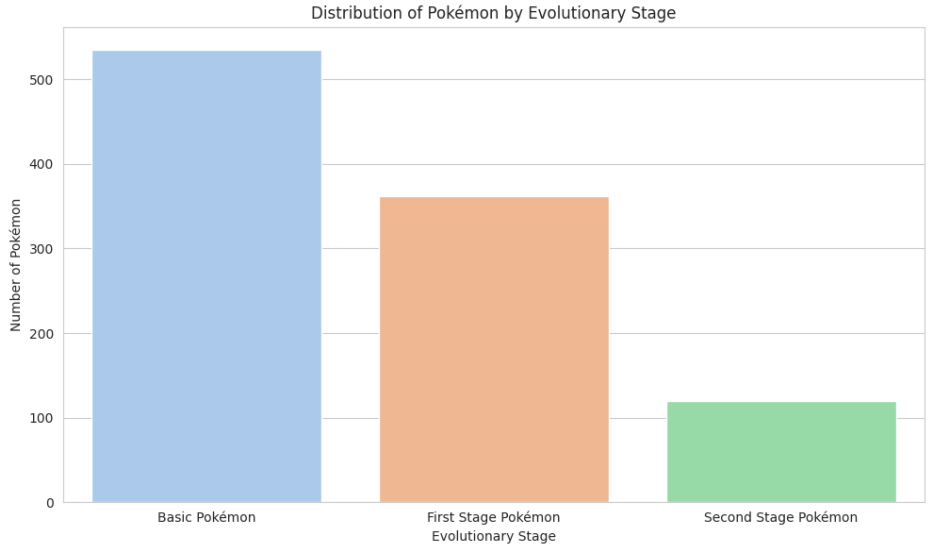
Figure 4



I found the most common primary pokemon types in the dataset. Water, normal and grass were the most common. It was interesting to see that fire was lagging behind slightly because water fire and grass are supposed to cancel eachother out. This visualization highlights the diversity in

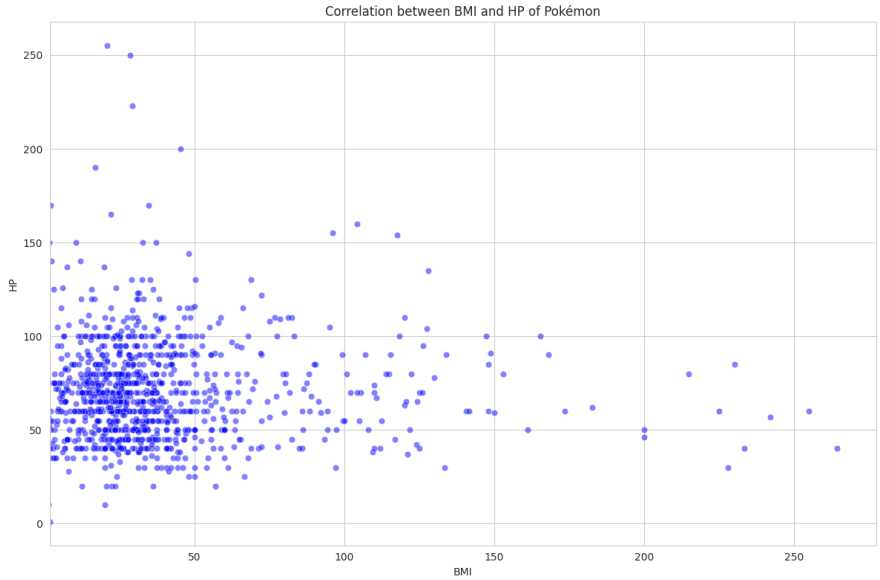
the Pokémon universe and can be crucial for battle strategies, given the strengths and vulnerabilities associated with each type.

Figure 5



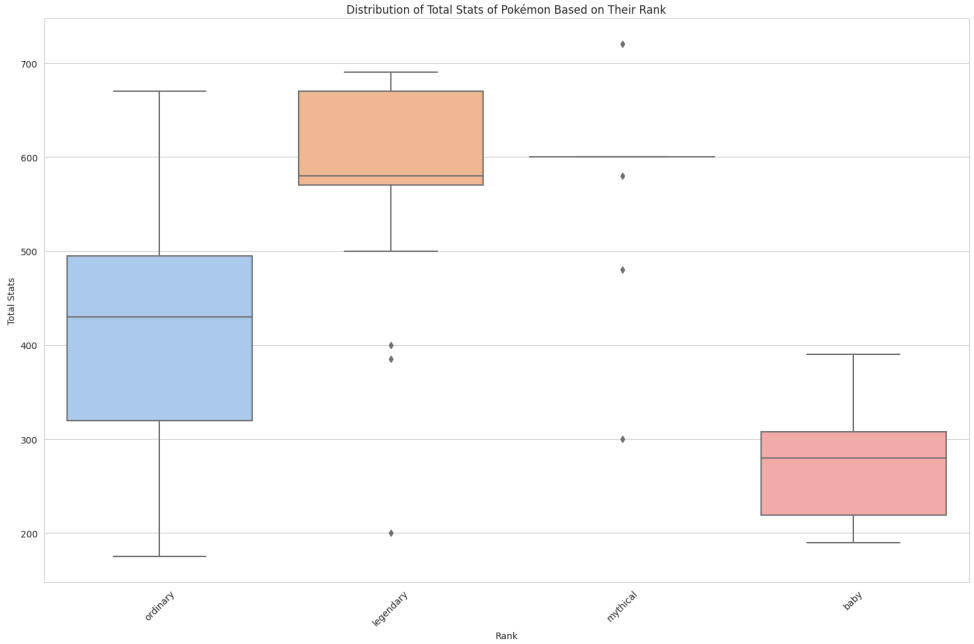
In this visualization, I showed the different evolutionary stages of all the Pokemon in the dataset. Unsurprisingly, the majority of the Pokemon were basic, with less in first stage, and even less in second stage evolution.

Figure 6



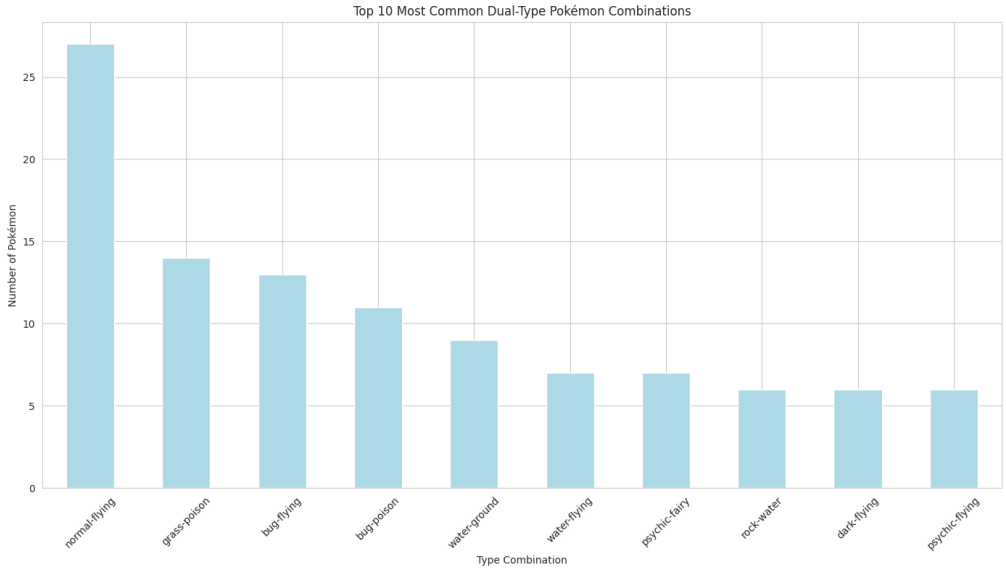
In this visualization, I first calculated the BMI for each Pokemon in the dataset, and I wanted to compare it to their HPs as I thought that the bigger Pokemon would have a higher HP. While a strong linear correlation was not evident, the visualization allows for the exploration of potential outliers or unique cases in the dataset.

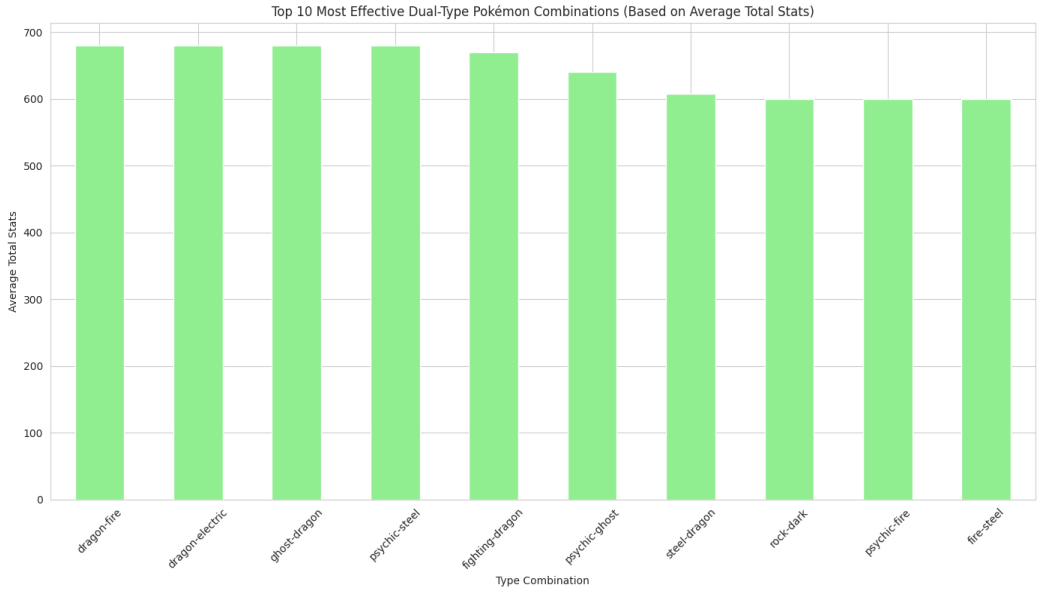
Figure 7



In this visualization, I wanted to compare the stats of normal Pokemon to legendary and mythical. As we can see, legendary and mythical Pokemon have significantly higher median total stats than the normal pokemon. This visualization also shows that there are very few mythical Pokemon in the dataset at all. Another interesting observation I made was that the max stats for ordinary Pokemon and Legendary were actually pretty similar, showing that the game designers didn't want to make Legendary Pokemon too overpowered.

Figures 8 and 9





I graphed bar plots representing the most common dual-type combinations and the most effective dual-type combinations based on average total stats to find insights into dual type Pokemons. By far the most common dual type combo was normal-flying. The most effective dual type combos were dominated by the dragon type, potentially showing us that dragon pokemon would be strong to have.

Conclusion

The Pokémon data shows that most Pokémon have similar basic strengths, making battles fair. While there are many different kinds of Pokémon, some abilities and two-type combinations are more common. This gives trainers a lot to think about when planning battles and collecting Pokémon.