

Pokemon Design Challenge

Case Study by Avery Schebell



Prompt:

In 1996, the first games of what would later become the Pokemon franchise, *Pocket Monsters: Red* and *Green*, were released in Japan. These initial games, titled the first generation, included 151 unique animal characters called Pokemon, with each containing a colorful design and one or two designated power “Types”. Today, there are nine generations of pokemon with an accompanying game, with a total of 1025 pokemon. With so many pokemon already in existence, creating new designs for subsequent generations has become a challenging endeavor. The Pokemon Company is preparing to release their newest Pokemon game, including adding new pokemon to the official pokedex. However, they want to ensure that these new additions will capture the hearts of their players to entice consumers to purchase the new game. To accomplish this, they want to ensure these new designs quickly communicate the powers or “Type” associated with each new pokemon. They have tasked you, along with several other data scientists, to create a model to predict a Pokemon’s primary Type based on the color palette of the design. The Pokemon Company plans to use this model to test potential future designs and type combinations for pokemon sprites, and are offering a reward of \$1,000,000 to the best model. Do you think you can create the most accurate model?



Deliverable:

Find a dataset containing images and corresponding primary types for all nine generations of Pokemon. Additionally, either find or create a dataset of the color palettes used for each pokemon sprite design using a method of your choice (e.g. hex codes). Then use this dataset to create a machine learning model of your choice that will accurately predict the primary type of each Pokemon (an example is provided in the repository). You are welcome to use other predictors in addition to color. Additionally, include a document which includes an explanation of your data, model, and how this will help the Pokemon Company with future design decisions. Finally, submit your code and the aforementioned document.