Catch Them All

BY SARDEEP VIRK

QUESTIONS

- What Types of Pokemon are most commonly caught?

- Which Pokemon features are best suited to predict the catch rate for a Pokemon?
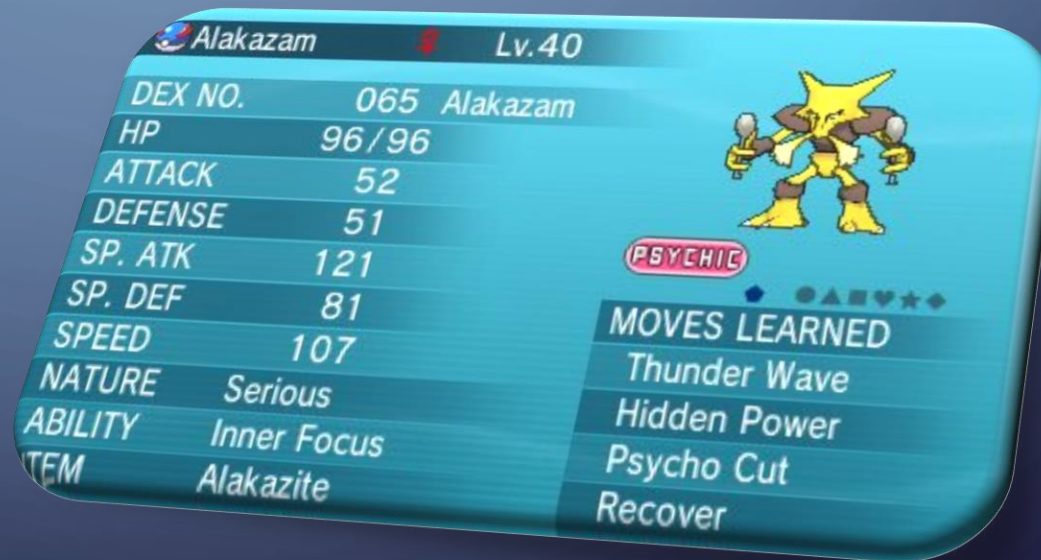
DATA BACKGROUND

- Catch Rate – The number of times Pokemon are captured by humans

- Dataset Taken from https://www.kaggle.com/alopez247/pokemon/home

- Contains 21 features for 721 Pokemon
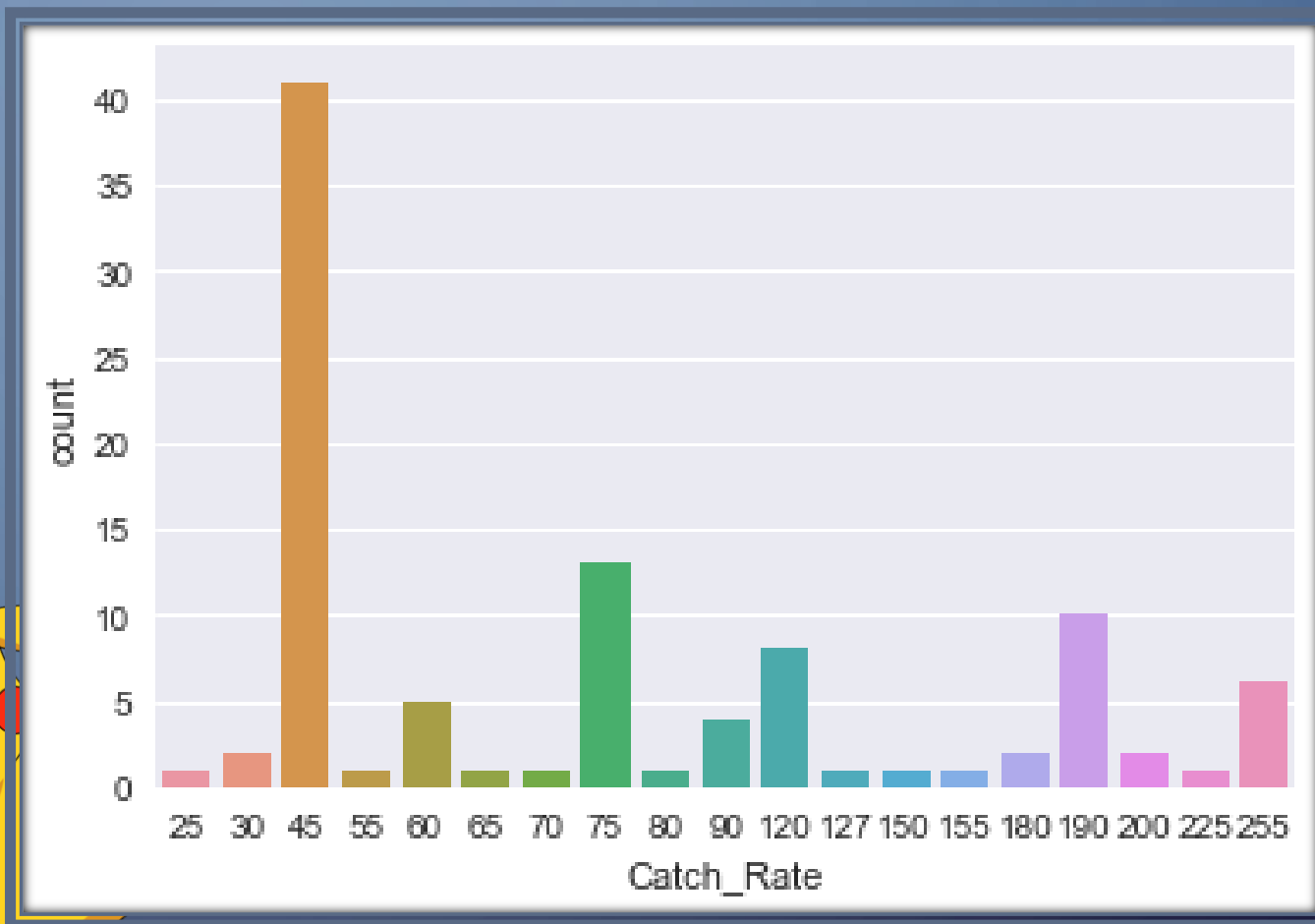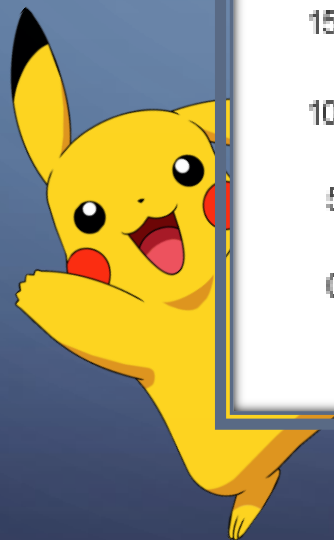
- Stats from the RPG games

TESTED FEATURES

- Pokemon Type(1 & 2)
- Egg Type(1 & 2)
- Color
- Total Stats (Combination of all stats)
  - HP
  - Attack
  - Defense
  - Sp_Attack
  - Sp_Defense
  - Speed
  - Height
  - Weight

CATCH RATE COUNTS

- Human are most likely to catch Pokemon 45 times

- Average catch rate is 95

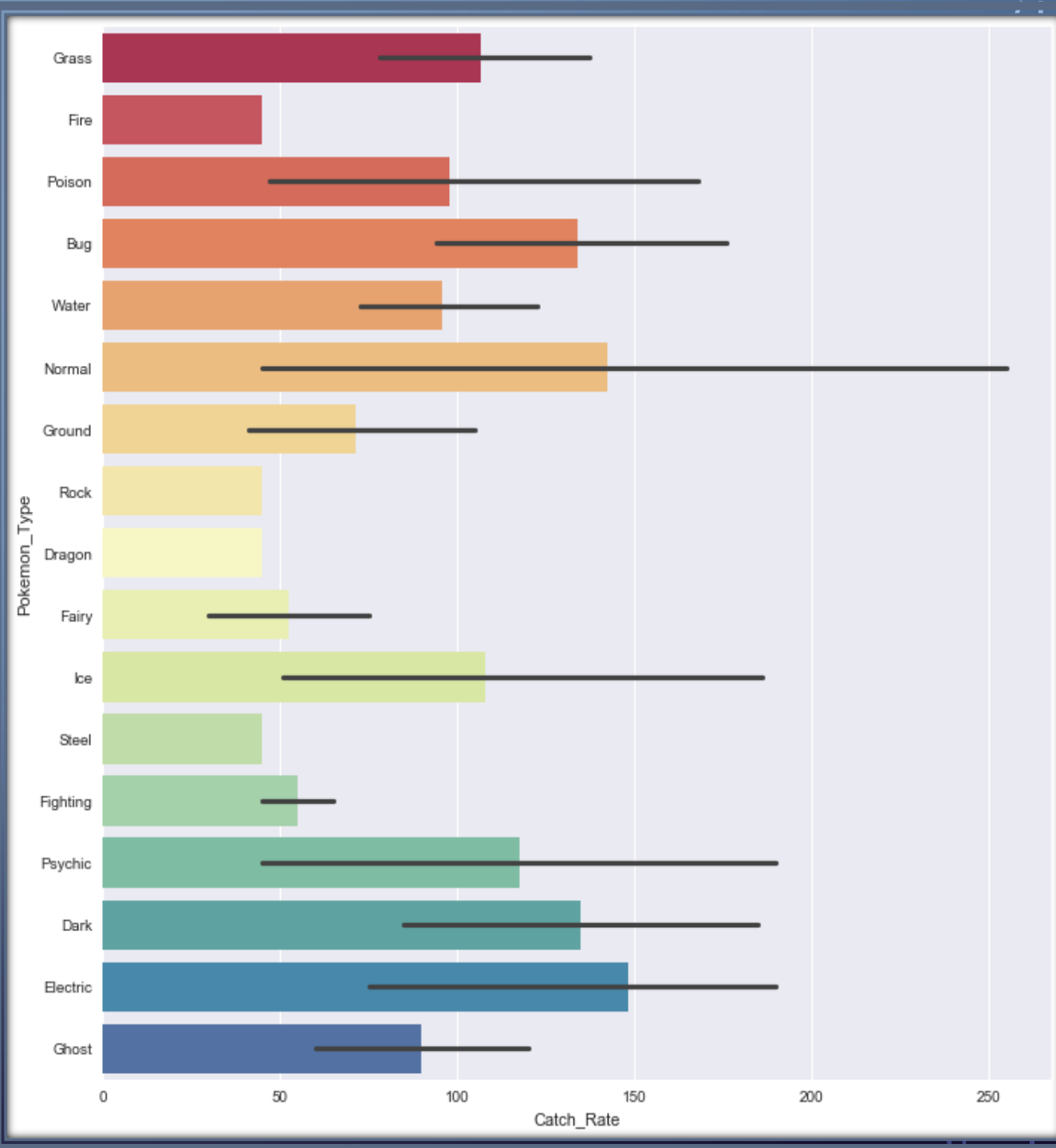- Lowest rate is 25

- Highest rate is 255

CATCH RATE BASE ON POKEMON TYPE_1

Top 4 most commonly captured Pokemon types

- Normal
- Electric
- Bug
- Dark

Top 4 least commonly captured Pokemon types
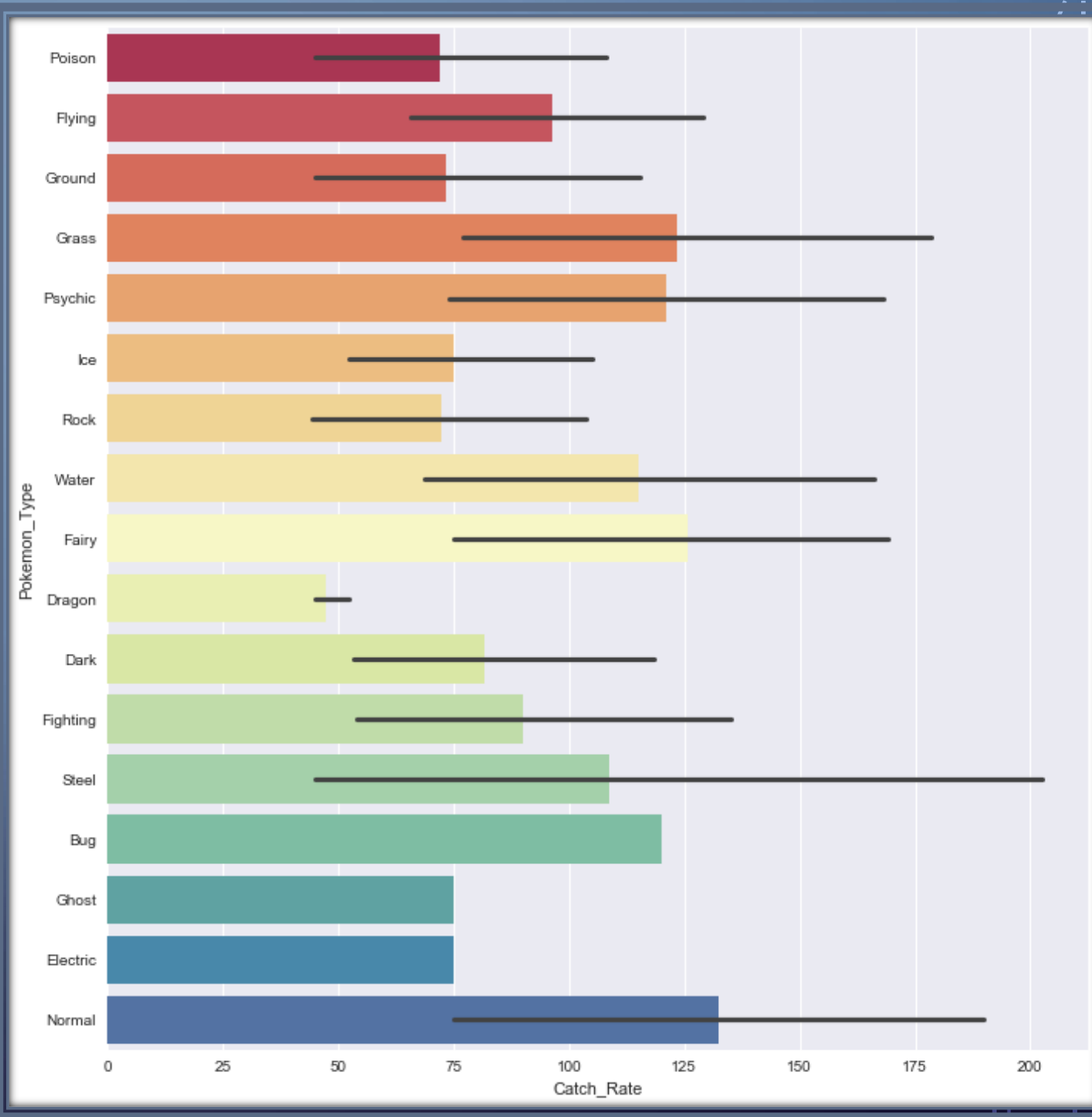
- Rock
- Dragon
- Steel
- Fire

CATCH RATE BASE ON POKEMON TYPE_2

Top 4 most commonly captured Pokemon types

- Normal
- Fairy
- Grass
- Psychic

Top 4 least commonly captured Pokemon types
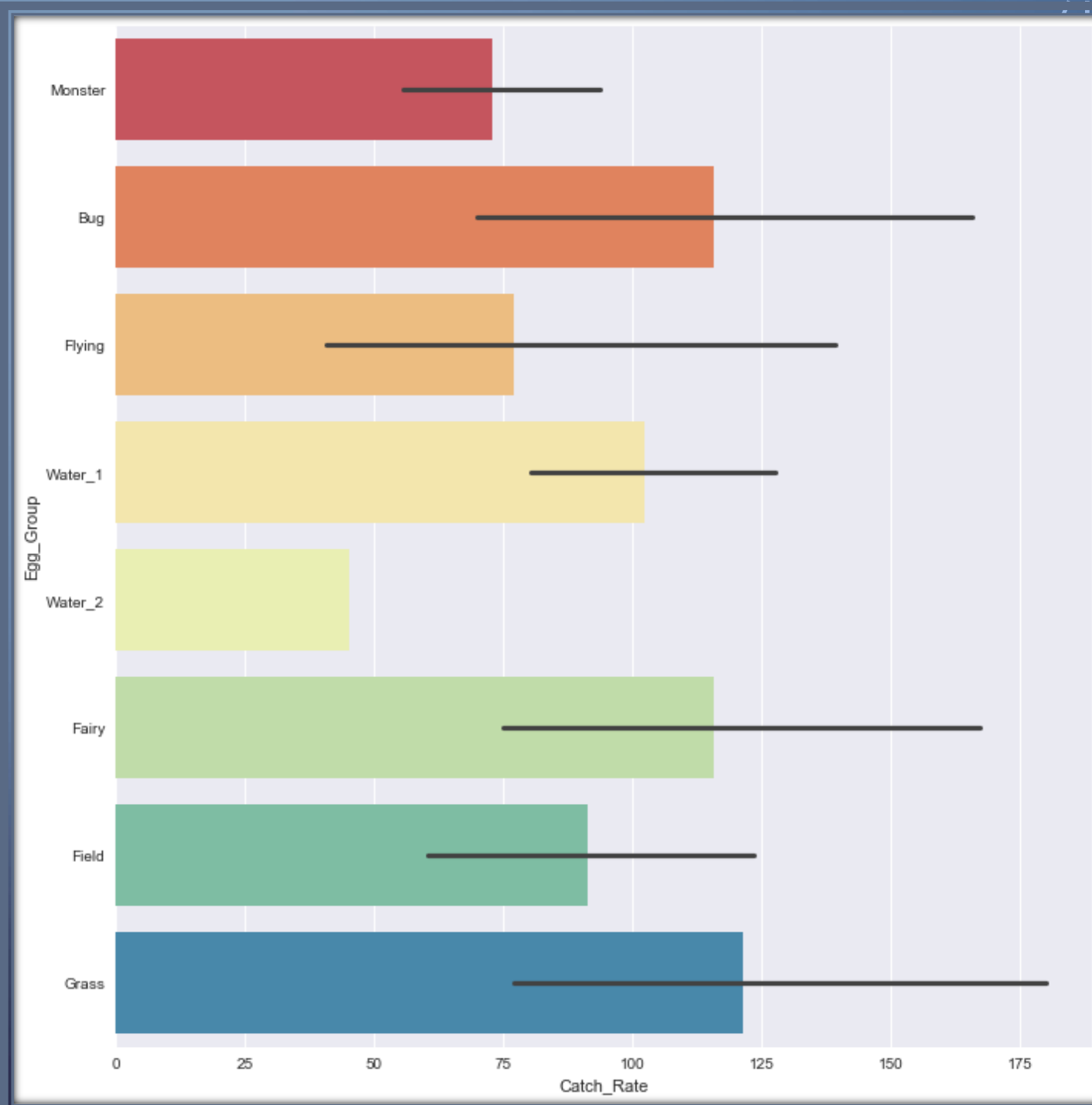
- Dragon
- Ghost
- Electric
- Rock

CATCH RATE BASED ON EGG TYPE_1

Top 3 most commonly captured
Pokemon types

- Grass

- Fairy

- Bug

Top 3 least commonly captured
Pokemon types
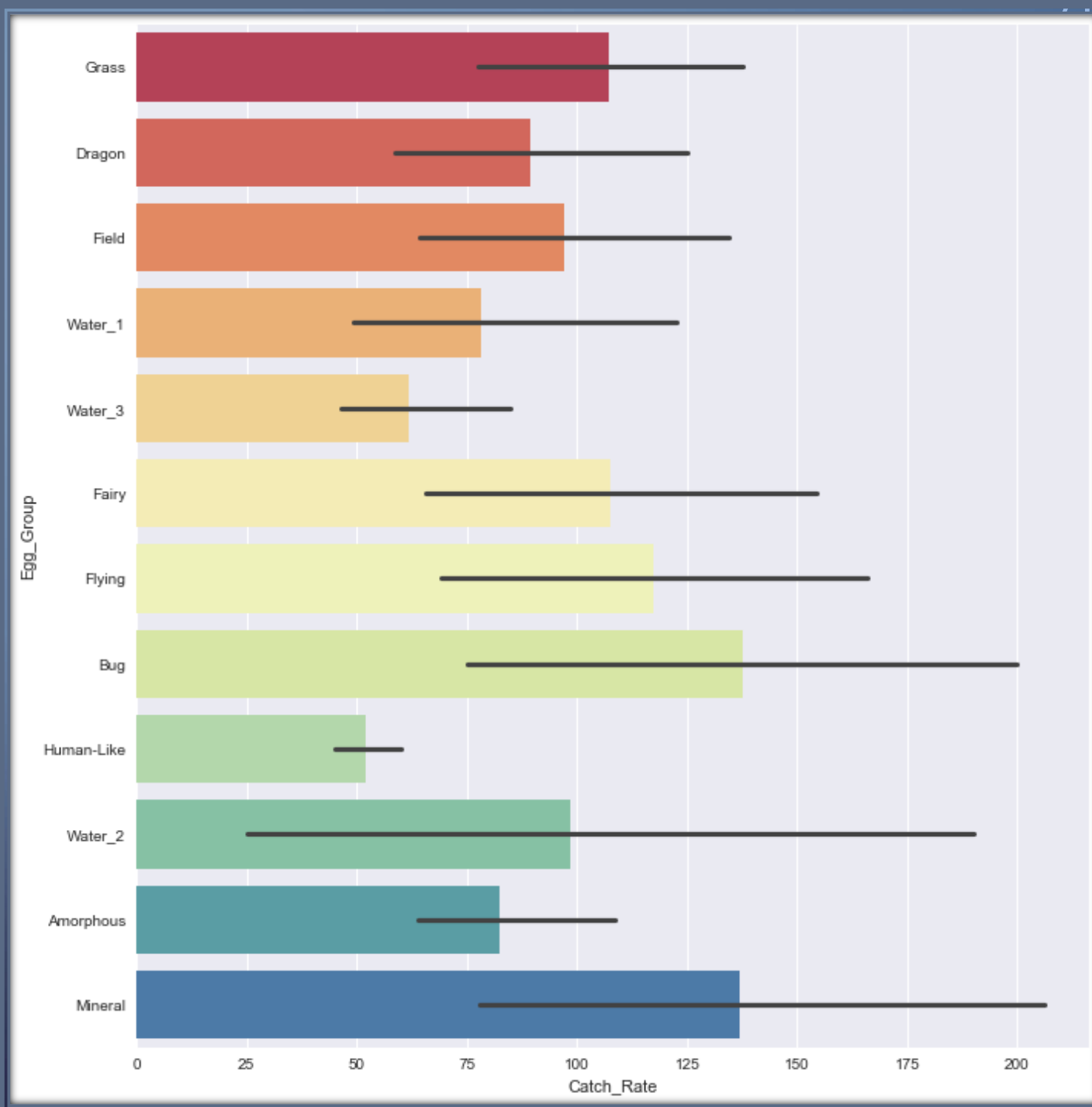
- Water_2

- Monster

- Flying

CATCH RATE BASED ON EGG TYPE_2

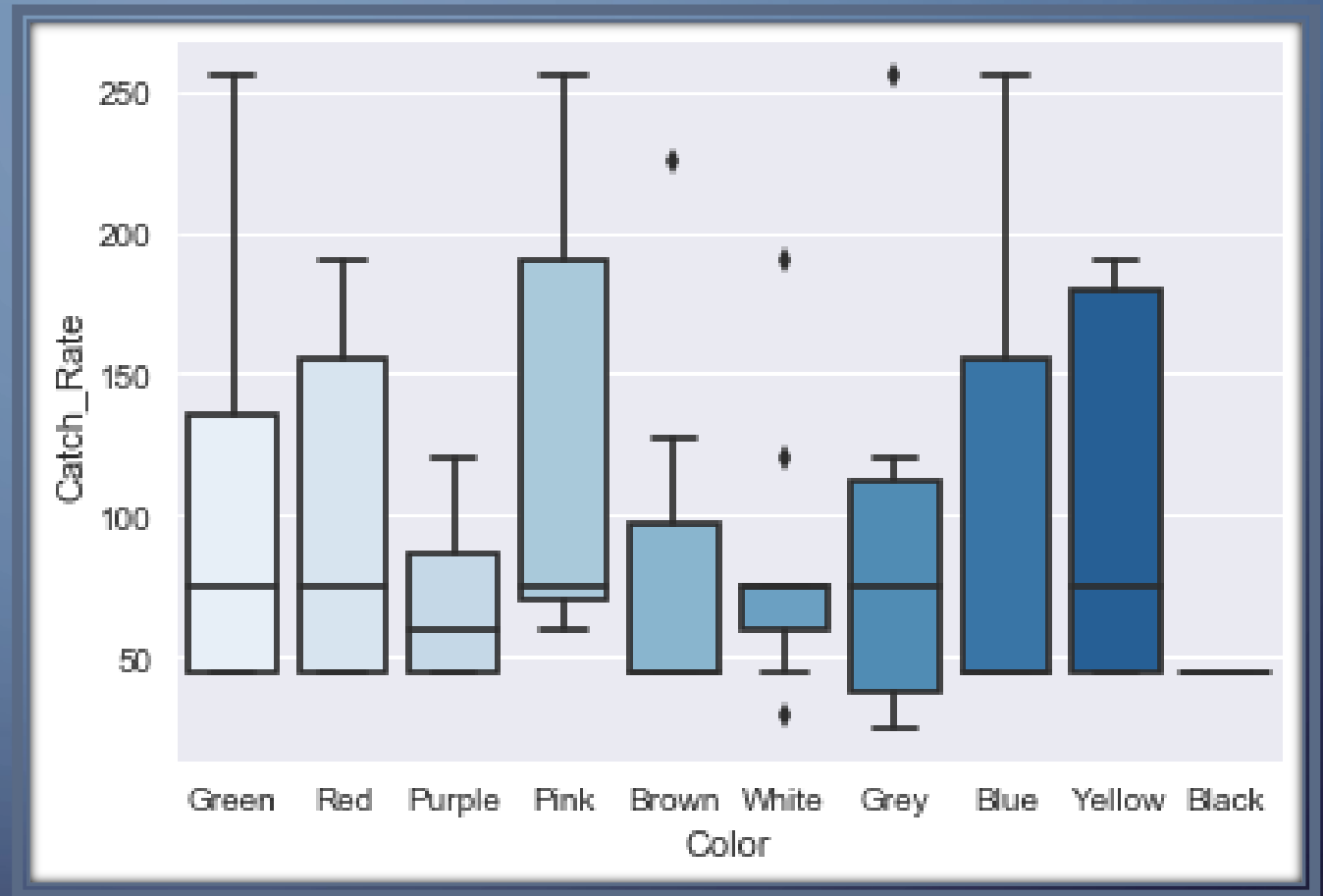Top 3 most commonly captured Pokemon types

- Bug
- Mineral
- Flying

Top 3 least commonly captured Pokemon types

- Human-Like
- Water_3
- Water_1
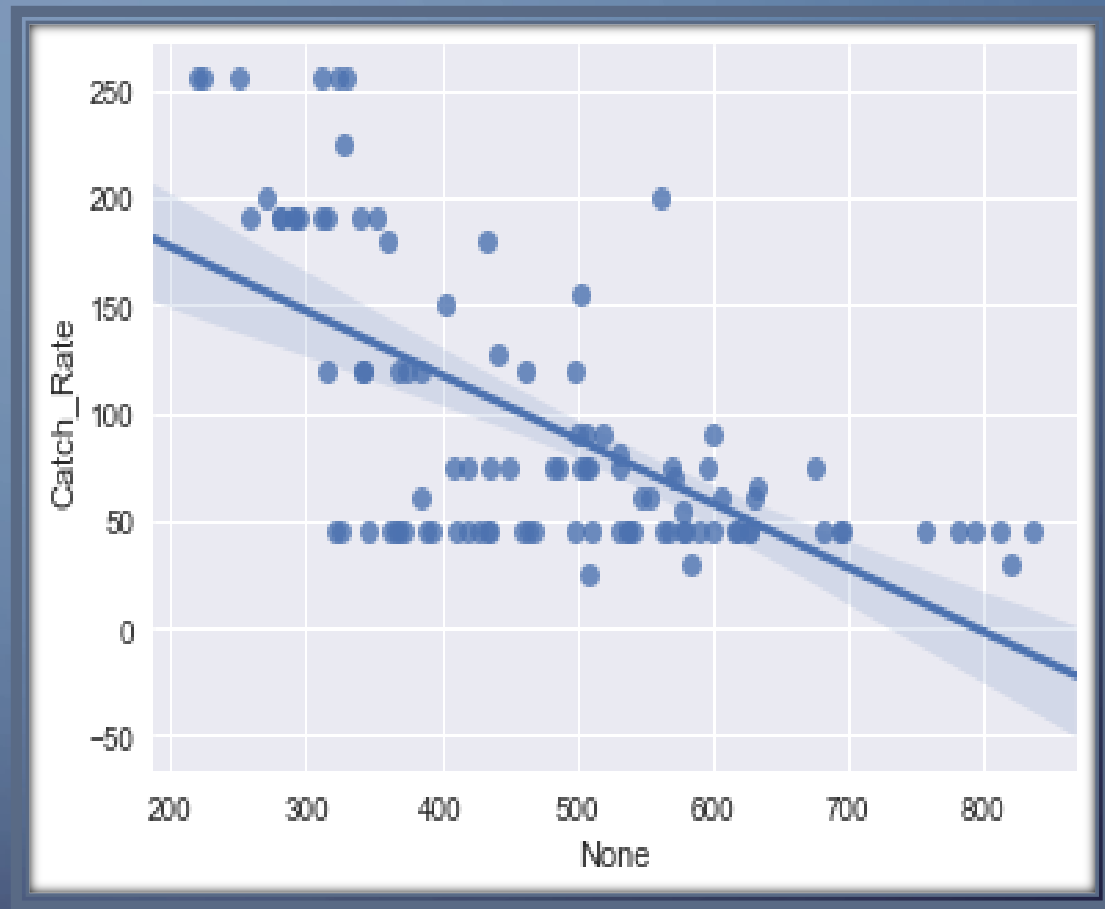
CATCH RATE BASED ON COLOR

- Yellow and Pink Pokemon are most likely to be captured

- White and Black Pokemon are least likely to be captured

- Black and White Pokemon are also the least existing Pokemon

FEATURE CORRELATION

- Tested Features are independent of one another

- Height and weight are most closely correlated

- Overall, test features are good choices to predict Catch Rate

TOTAL STAT SCORES VS CATCH RATE

- Linear regression chart demonstrates relationship between the stat features and catch rate

- As stats increase, catch rate decreases

- The coefficients below illustrate the relationship between each stat and catch rate

- R-squared = 0.6; the model indicates stats are a moderately good predictor for catch rate

HP	Attack	Defense	Sp_Atk	Sp_Def	Speed	Height	Weight
-0.19094606	-0.60623326	-0.94503195	-0.82944293	0.02134523	-0.54973142	-9.71966771	0.1704577

CONCLUSION

- Normal Pokemon types are most likely to be captured, while dragon Pokemon types are least likely to be captured

- Water egg types are least likely to be captured

- Yellow and Pink Pokemon are most likely to be capture and are commonly occurring, while white and black Pokemon are least likely to be captured and are rare to come by

- Pokemon stats are moderately fair predictors for catch rate. As stats increase, the catch rate decreases. Stronger Pokemon are harder to capture

REFERENCES

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