

# SUPERHEROS

hate 'em or love 'em, they cause a lot  
of property damage

GROUP 17  
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# **Man vs. Bear? More like Thor vs. Iron Man**

Looking to answer the age old question of "which superhero would win?" Well now it can be educationally guessed based on a few influencing factors.

# Our Datasets

**Fictional Character Battle Outcome:** a dataset for predictive modeling that is comprised of random generated attributes for a sampling of superheros and whether or not that combination produced a win in a battle against an "average" opponent.

**Superheros Dataset:** a comprehensive dataset of all Superheros pulled from superhero-db in 2017. Includes demographic information including things like powers, alignment, and publisher

# Our Color Scheme

For our color scheme we chose these bright primary colors that are often associated with superheros and comic books

# Data Cleaning

**Null Values/Missing Data, & Negative Values** - dropped columns with high volume of missing data in the superhero dataset and set negative height/weight values to the median

**Condensing Powers** - powers were condensed into categories bringing column values from ~169 to 15.

**Merging Datasets** - the superhero dataset was broken into two datasets, powers and attributes which we combined for ease of visualization

**Correcting Universe** - prior to modeling all superhero universes were corrected in the battle dataset as these were randomized

# Guiding Questions for our Model & Tableau Dashboards

## Model & Battle Dashboard:

- How do randomized traits impact battle performance?
- Are there any observable patterns in effectiveness?
- Are wins equally distributed across the randomized superheros?

## Superhero Dashboard:

- What is the height/weight distribution of superheros?
- How many superpowers does a superhero usually have?
- Who is the biggest publisher of superheros?

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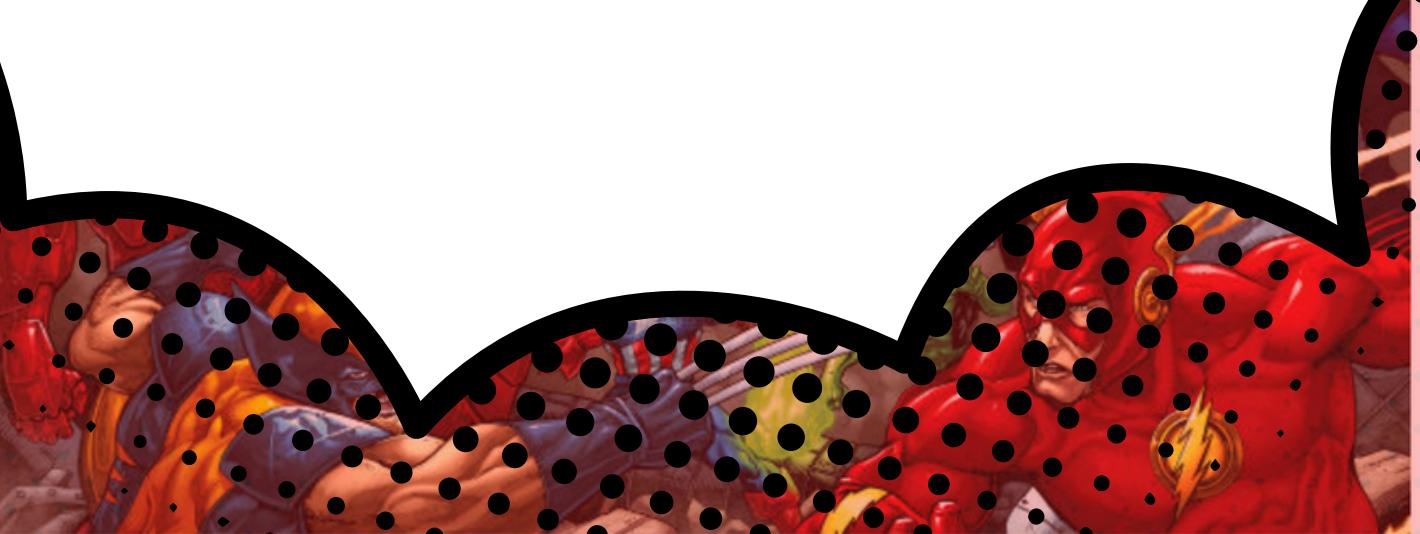
## WELCOME TO OUR

## SUPERHEROES AND PREDICTIVE

This project features two main components: a Superhero Dashboard and a Battle Dashboard. The Superhero Dashboard provides detailed information about their physical attributes, powers, and affiliations. The Battle Dashboard uses a machine learning model, which predicts battle outcomes based on various factors like hero stats and team compositions.

Explore the Superhero Dashboard to learn more about their physical attributes, powers, and affiliations. Then, use the Battle Dashboard to test different team configurations and predict the outcome of battles based on their abilities.

# LIVE DEMO



Explore to uncover the exciting dynamics of superhero battles!

# CONCLUSIONS

- Kryptonite appears to be the most detrimental weakness and appears to have the biggest impact on battle outcome while telekensis and flight appear to be the least favored special abilities
- Most superhero's posses between one and three superpowers with enhanced physical traits being the most frequently occurring power
- Marvel and DC dominate the superhero space with publishing, as expected

# BIASES & LIMITATIONS

- Assumed average opponent
- Limited constraints on inputs

# FUTURE WORK

- Expand the dataset, try including more superheros, different powers and weaknesses
- Introducing a pipeline for ease of production

# **THANK YOU!**