# UFC FIGHTING ANALYSIS :men\_wrestling:

## Reason

Being fans of UFC and MMA fighting, we have chosen to examine UFC Fighter stats for our supervised machine learning model and presentation.

## What is the UFC (ULTIMATE FIGHTING CHAMPIONSHIP)

Mixed martial arts (MMA) is a full-contact combat sport that allows a wide variety of fighting techniques and skills from a mixture of other combat sports to be used in competition. The rules allow usage of both striking and grappling techniques while standing and on the ground. Competitions allow athletes of different backgrounds to compete. UFC started in 1993 and has revolutionized the fighting buisness and is still growing. There are many things to be pulled from the data that the UFC has for the fighters and the training camps, Learning how the fighter trains and keeps his or her body in tip top condition in order to win the matches is something we can use to evualate what is the better match up between fighters.

## Data Source

We are examining a dataset containing various attributes of UFC fighter stats, fighting techniques, and body metrics. Using these features as inputs, we hope to use machine learning to determine which fighter would win in a match due to specific height, weight, finish, stance and many other metrics. The CSV file containing our data has 137 columns and 4,495 rows.

## Questions that we plan to answer with our data

How accurate can our we get our model at predicting which fighter will win?

What affects the win or loss between fighters?

Does fighting style matter between fighters?

What factors can we use and accurately predict fighter win chances?

For our project, we will have several different models based on the questions that we are hoping to answer:

Supervised Machine Learning - Classification, Random Forest, SMOTEENN, Multiple linear regressions

We plan to create a story using tableau to present the information we have gathered

## Description of the communication protocols

We plan on meeting twice a week to work on and update the project. Communication will be managed over Slack and Zoom.