Data Analytics Case Study Portfolio

Noah Vaknin

ABOUT ME

- Overview
- Values
- Traits

OVERVIEW

I AM RECENT GRADUATE FROM BINGHAMTON UNIVERSITY WHO MAJORED IN FINANCIAL ECONOMICS AND AM EAGER TO WORK IN A ROLE WHERE I CAN APPLY MY STRONG ANALYTICAL SKILLS, ABILITY TO FOCUS ON THE DETAILS AND COMMITMENT TO A POSITIVE OUTCOME. MY ACADEMIC TRAINING ALONG WITH MY PART-TIME EXPERIENCE AT NORTHWELL HEALTH HAS GIVEN ME A WELL-ROUNDED UNDERSTANDING OF PROBLEM SOLVING, TIME MANAGEMENT AND THE ABILITY TO WORK WELL IN A TEAM ENVIRONMENT

DURING MY INTERNSHIP I HAD THE OPPORTUNITY TO WORK WITH FINANCE PROFESSIONALS WHERE I WAS RESPONSIBLE FOR REVIEWING FINANCIAL STATEMENTS TO IDENTIFY VARIANCES TO BUDGET, OPTIMIZING KPI REPORTS AND CONSOLIDATING DATA TO PREPARE AND PLAN FOR AN IT SYSTEMS TRANSITION. IN ADDITION, THE COURSES THAT I HAVE TAKEN IN ACCOUNTING, FINANCE, STATISTICS, AND ECONOMICS HAVE PROVIDED ME WITH A SOLID FOUNDATION FOR THIS ROLE. LASTLY, I AM CURRENTLY ENROLLED IN CAREERFOUNDRY'S DATA ANALYTICS PROGRAM WHERE I'VE GAINED PRACTICAL SKILLS IN MICROSOFT EXCEL, TABLEAU, SQL, PYTHON, AND GITHUB.

VALUES

- **HARDWORKING** - I APPROACH EVERY TASK WITH DEDICATION AND PERSISTENCE, ENSURING THAT I PUT IN THE EFFORT NEEDED TO ACHIEVE THE BEST RESULTS.

- **DETAIL-ORIENTED** - I PAY CLOSE ATTENTION TO THE FINER DETAILS, MAKING SURE THAT NOTHING IS OVERLOOKED AND THAT MY WORK IS THOROUGH AND ACCURATE.

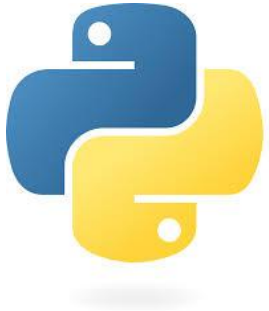
- **ACCEPTING** - I VALUE DIFFERENT PERSPECTIVES AND CREATE AN INCLUSIVE ENVIRONMENT WHERE EVERYONE FEELS RESPECTED AND HEARD.

INTERESTS

LIFTING WEIGHTS - COMMITTED TO STRENGTH TRAINING AND PERSONAL FITNESS.

BASKETBALL & FOOTBALL - ENJOY FOLLOWING AND PLAYING BOTH SPORTS.

COOKING - LOVE EXPERIMENTING WITH NEW RECIPES AND FLAVORS.



INTRODUCTION

The CareerFoundry Data Analytics program is a comprehensive, hands-on course designed to equip students with the skills and tools needed to excel in data-driven roles. Over the course of the program, I've gained expertise in:

- **Microsoft Excel** for data cleaning, analysis, and visualization
- **SQL** for database management and querying
- **Tableau** for creating interactive dashboards and visualizations
- **Python** for advanced data analysis and automation
- **GitHub** for version control and collaborative work

UFC PROJECT

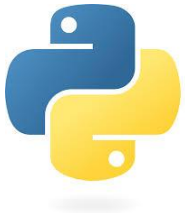
UFC PROJECT

Overview: This project aims to analyze historical UFC fight data to identify patterns and factors that contribute to a fighter's success. The dataset, scraped from UFCStats using BeautifulSoup and processed with Pandas, compiles detailed fight statistics for every UFC event in history. Each row represents a single fight and includes performance metrics for both fighters-categorized as "red" and "blue" based on their corner placement. The dataset provides pre-fight statistics, such as significant strikes and takedowns, for each fighter, aggregated from their past fights (excluding the current one). The primary objective is to determine how these statistics correlate with fight outcomes and to build a predictive model for fight winners.

Hypothesis:

Fighters with superior significant strike and takedown statistics are more likely to win their fights. By analyzing trends in past performance, we can explore whether these metrics serve as reliable indicators of success in the octagon.

Tools Used



Objectives:

Data Exploration & Cleaning: Understand the structure and quality of the dataset, addressing any inconsistencies or missing values.

Feature Engineering & Selection: Identify key statistical indicators that contribute most to predicting fight outcomes.

Model Development: Train and evaluate machine learning models to predict fight winners based on historical performance data.

Insights & Visualization: Present findings on which statistics have the greatest impact on winning, providing valuable insights into UFC fight dynamics.

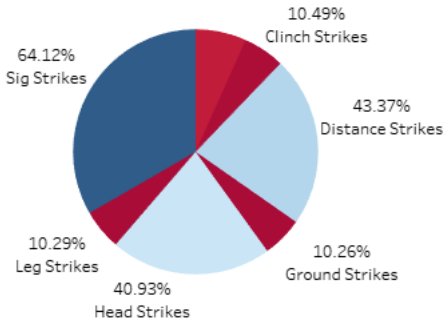
Data:

https://www.kaggle.com/datasets/rajeevw/ufcdata

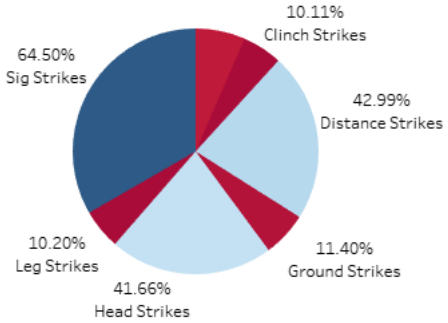
PIE CHARTS

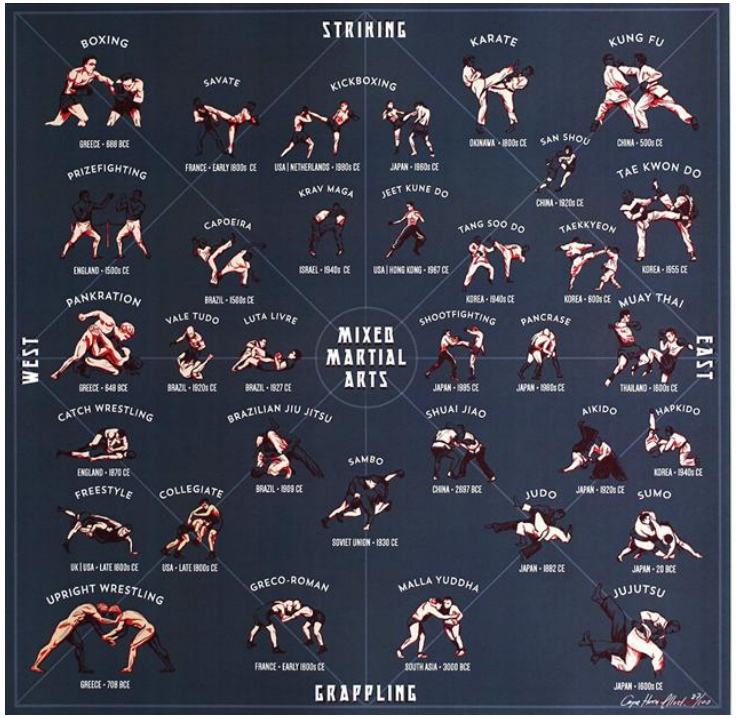
Strike Percentages by Fight Outcome

Loser



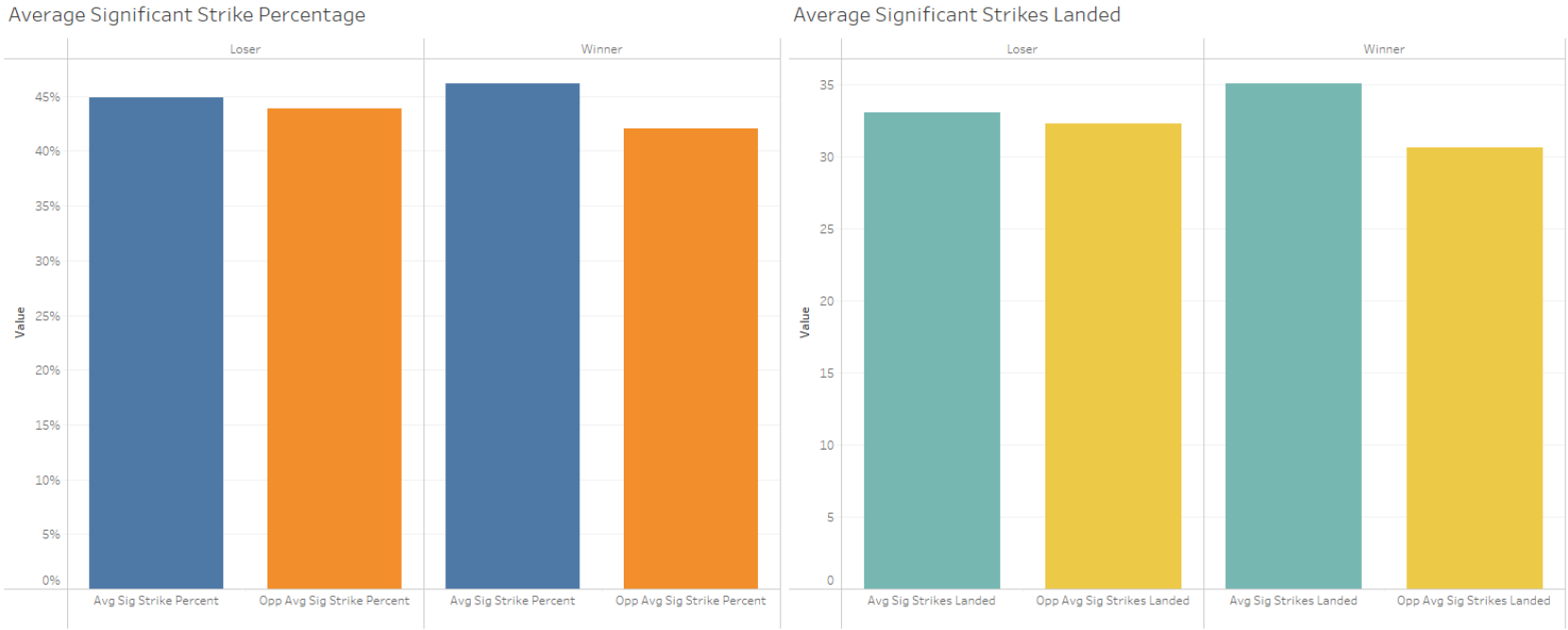
Winner





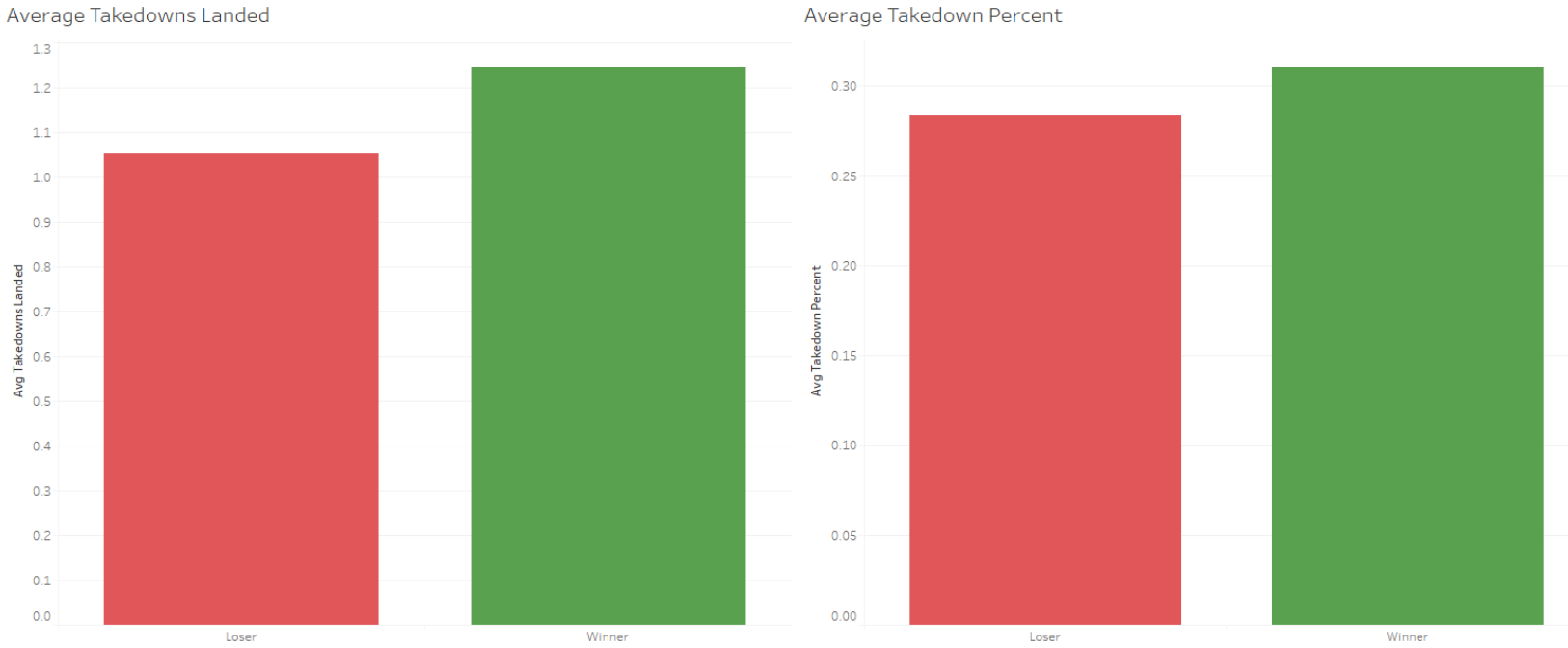
FROM LOOKING AT BOTH OF THESE BREAKDOWNS, ALTHOUGH A SMALL DIFFERENCE, IT IS IMPORTANT TO NOTE THAT THE WINNER USES A HIGHER PERCENTAGE OF SIGNIFICANT STRIKES AND GROUND STRIKES AS OPPOSED TO THE LOSER.

BAR GRAPHS SIG STRIKE



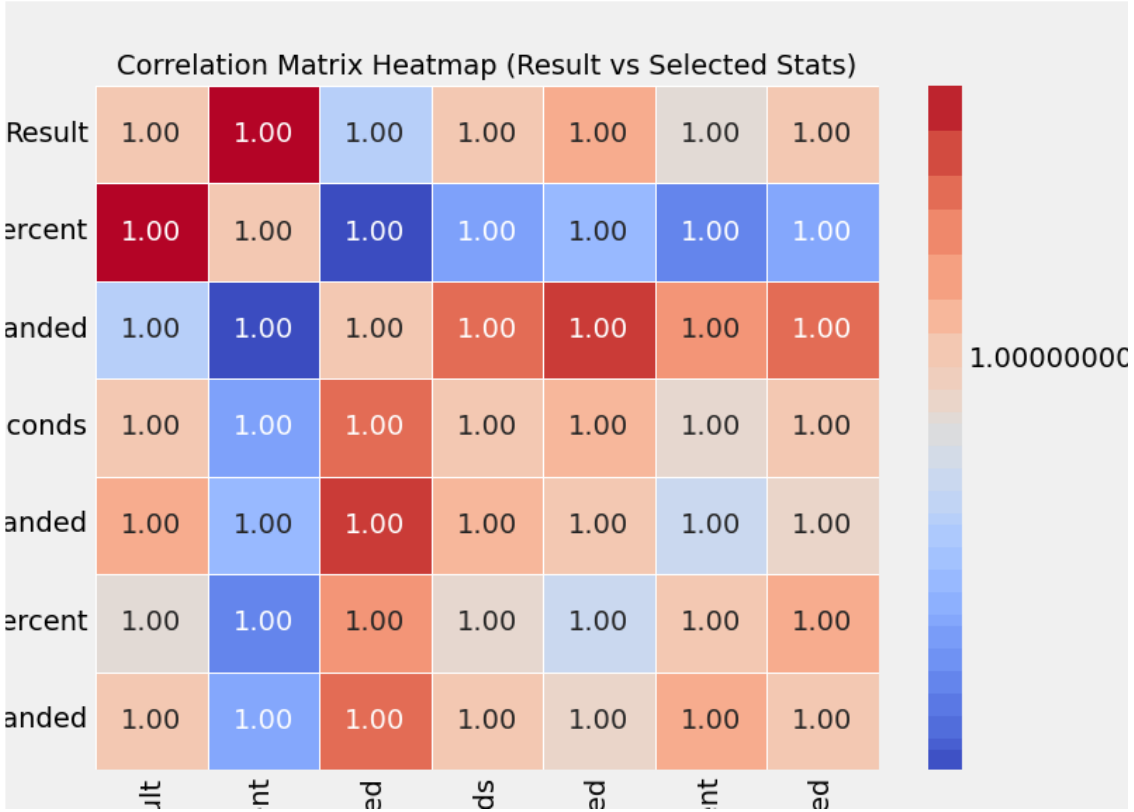
FROM THESE TWO VISUALS, ONE CAN SEE THAT THE WINNER OF THE FIGHT ON AVERAGE HAS A HIGHER SIGNIFICANT STRIKE PERCENTAGE ALONG WITH MORE STRIKES LANDED. THEIR OPPONENT ON AVERAGE HAS A LOWER SIGNIFICANT STRIKE PERCENTAGE AND LESS OF THOSE STRIKES LANDED.

BAR GRAPHS TAKEDOWN



ON AVERAGE, THE WINNER OF THE FIGHT HAS MORE TAKEDOWNS LANDED ALONG WITH A HIGHER TAKEDOWN PERCENTAGE.

CORRELATION BREAKDOWN



FROM THIS HEAT MAP WE SEE THAT SIGNIFICANT STRIKES SHOWS THE HIGHEST CORRELATION WITH THE RESULT OF WINNING, 1, AND TAKEDOWN PERCENTAGE PLAYS THE SECOND GREATEST ROLE IN THE RESULT OF WINNING.
SIG STRIKE IS LIGHT BLUE, TAKEDOWN IS IN GREY.

CONCLUSION

- BASED ON OUR ANALYSIS, **SIGNIFICANT STRIKES** EMERGED AS THE MOST CRUCIAL FACTOR IN DETERMINING FIGHT OUTCOMES. FIGHTERS WHO LANDED MORE **SIGNIFICANT STRIKES** HAD A STRONG CORRELATION WITH WINNING, MAKING IT THE MOST IMPACTFUL METRIC.
- FOLLOWING SIGNIFICANT STRIKES, **TAKEDOWNS** ALSO PLAYED AN IMPORTANT ROLE. WHILE NOT AS INFLUENTIAL AS STRIKING VOLUME AND ACCURACY, THE ABILITY TO SECURE TAKEDOWNS CONTRIBUTED TO A FIGHTER'S SUCCESS, SUGGESTING THAT EFFECTIVE GRAPPLING CAN BE A KEY ADVANTAGE.
- WE ALSO EXPLORED FACTORS **OUTSIDE OF THE FIGHT ITSELF**, SUCH AS **FIGHT LOCATION**, TO SEE IF EXTERNAL CONDITIONS INFLUENCED OUTCOMES. HOWEVER, OUR FINDINGS SHOWED **LITTLE TO NO IMPACT**, INDICATING THAT PERFORMANCE-BASED METRICS REMAIN THE PRIMARY DETERMINANTS OF VICTORY.
- THESE INSIGHTS REINFORCE THE IMPORTANCE OF STRIKING EFFICIENCY AND TAKEDOWN SUCCESS IN FIGHT STRATEGY, WHILE EXTERNAL ELEMENTS LIKE LOCATION APPEAR TO HAVE MINIMAL EFFECT ON THE FINAL RESULT.

- ANALYSIS DONE IN PYTHON:
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THANK YOU

Noah Vaknin

noahvaknin2@gmail.com

www.linkedin.com/in/noah-vaknin-binghamton2024