

# UFC-Dataset

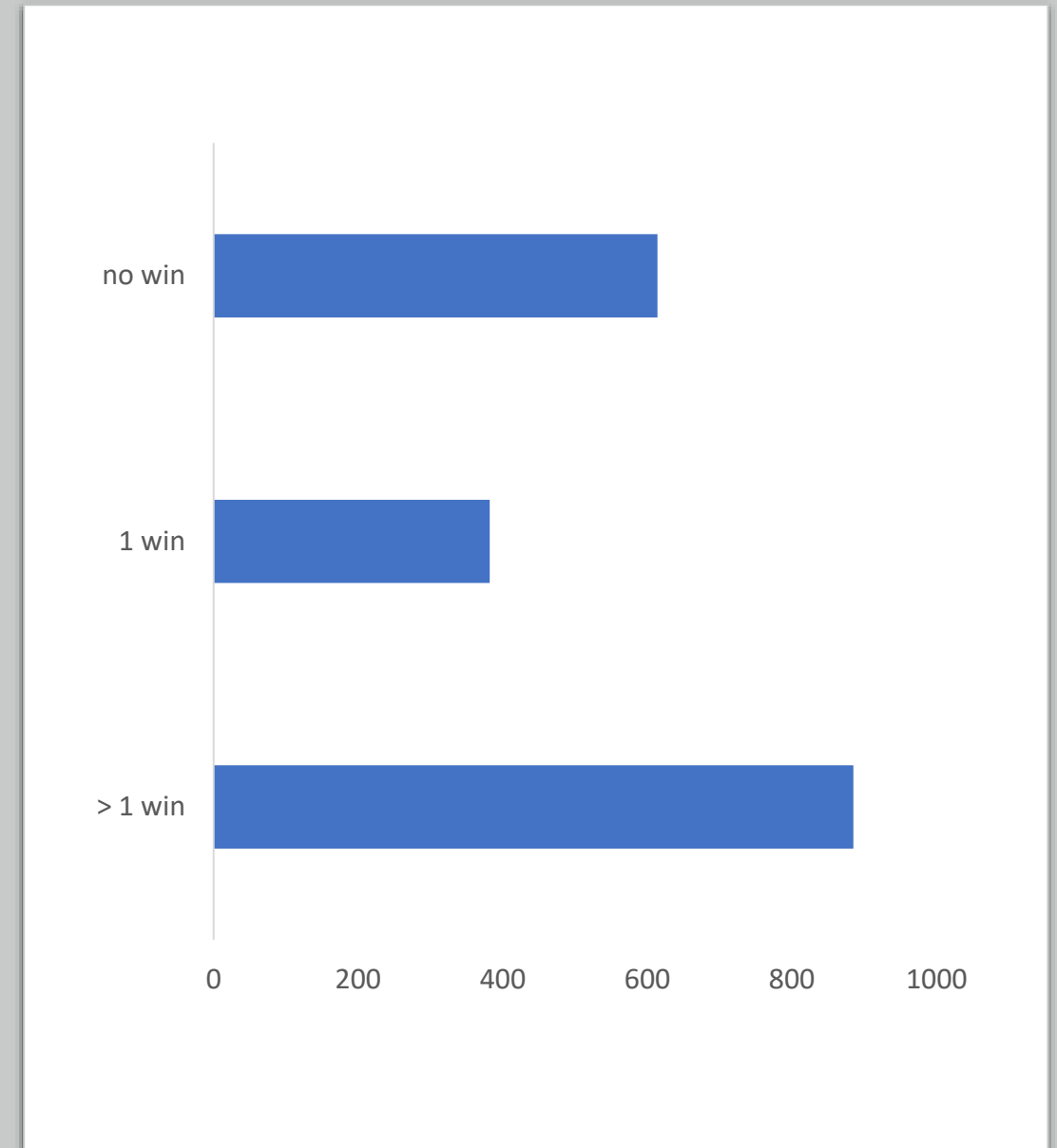
Exploration and Machine Learning

# Set of Questions

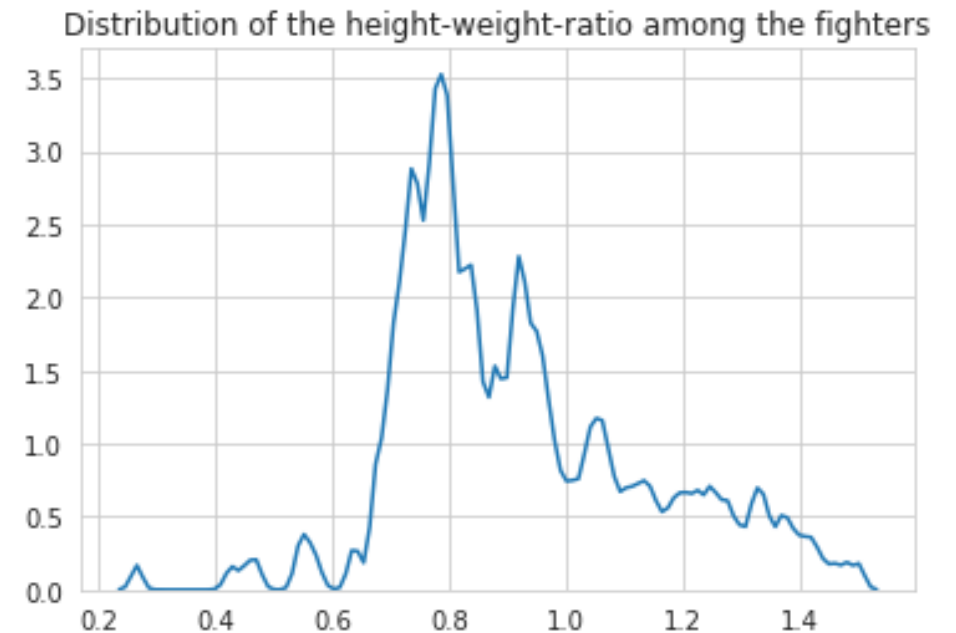
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- Which fighter has the most wins?
- How many fighters have multiple, just one or no wins at all?
- What does the density-distribution of the height-weight-ratio look like?
- What is the percentage of rounds won by KO or TKO?
- What is the maximum age a fighter has won a fight with?

- Most Wins: Donald Cerrone at 23 wins total
- Distribution of wins:
  - 885 with more than one win
  - 382 with one win
  - 614 with no wins at all



- Peak of density is at around 0,78
- Sharp drop of density towards lower values indicates a limit
- The more shallow drop towards higher values indicate that being bigger isn't necessarily a considered disadvantage



- Randy Couture is the oldest to ever win a UFC-fight at 47 years old
- Further analysis: he leads the chart of oldest winners with 3 fights he won at age 47 and 46 and is followed by Dan Henderson and Tim Boetsch

	R_fighter	B_fighter	B_age	R_age	Winner	Winner_count
3730	Randy Couture	James Toney	42.0	47.0	Red	47
3928	Randy Couture	Brandon Vera	32.0	46.0	Red	46
3865	Randy Couture	Mark Coleman	45.0	46.0	Red	46
1458	Dan Henderson	Hector Lombard	38.0	45.0	Red	45
1908	Tim Boetsch	Dan Henderson	44.0	34.0	Blue	44

# Machine Learning

- predict the winner of a UFC-fight based on the available data from kaagle
- Outcome:
  - Accuracy: 0,71
  - F1-score: 0,81
  - Recall: 0,92
  - Precision: 0,72
- Assessment based on metrics: better than random ( = 0,5), decent f1-score