

# Basic Analytics : CounterStrike Global Offensive

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## 1.Introduction

Counter Strike : Global Offensive better known as "CSGO" is a widely popular game played online and I myself am very fond of playing it. The game is very competitive and a lot of player put effort and time in improving his/her skills in the game . It is among the few games which has made up to the E-sports (Electronic Sports) platform and many competitions and tournament are held world wide.

The game is played as Terrorists side Vs the Counter Terrorists side with each side consisting of 5 players. A side can win a round by either--Dentonating the Bomb under time limit or Total elimination of the opposing side, as in the case of Terrorists , or--Surviving the time limit or Total elimination of the opposing side, as in the case of Counter Terrorists resulting one point to the winning side for single round.The teams play upon predesigned Maps.

## 2. Data acquisition and cleaning

Data is acquired from the site- hltv.org (<https://www.hltv.org/matches>)

I will be using data from the site hltv.org which has data of all the recent games played among professional teams. The data I will be parsing out from the site is scores of the rounds for the two halves.

The resulting data set would consist of-- the Map played having the Number of Terrorists sided victories and Number of Counter-Terrorists sided victories.

Cleaning the data includes sorting the dataframe according to the map names, dividing the master dataframe to individual map data with the side information.

There was a lot of appending involved as I wanted my dataset to be large so that I would be able to get much more accurate results. I created a specific appender notebook in order to achieve so.

I also created a data extractor which was responsible for the parsing of the data from the sites.

Some manual work was also done for putting the master link into the code. I did this only 4 times to get a dataset of shape of 2000 + elements, therefore most of my data acquisition was automated.

### 3. Exploratory Data Analysis

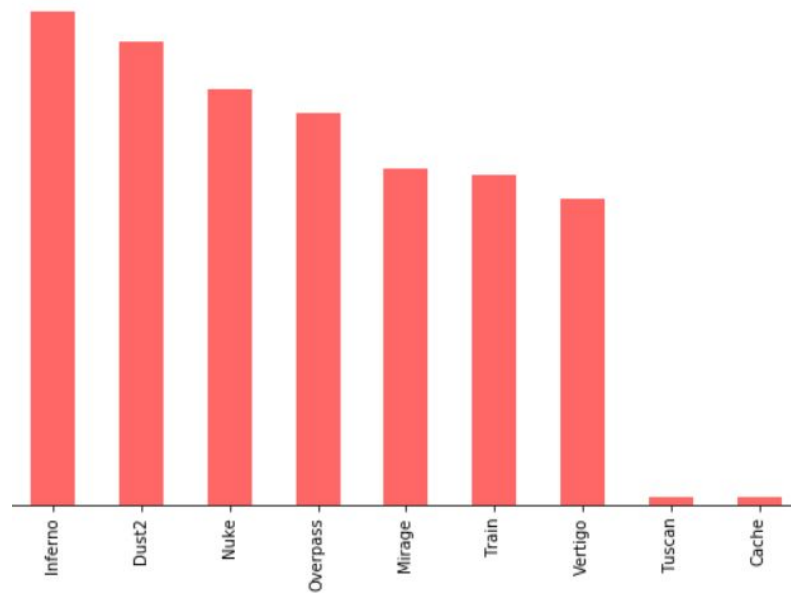
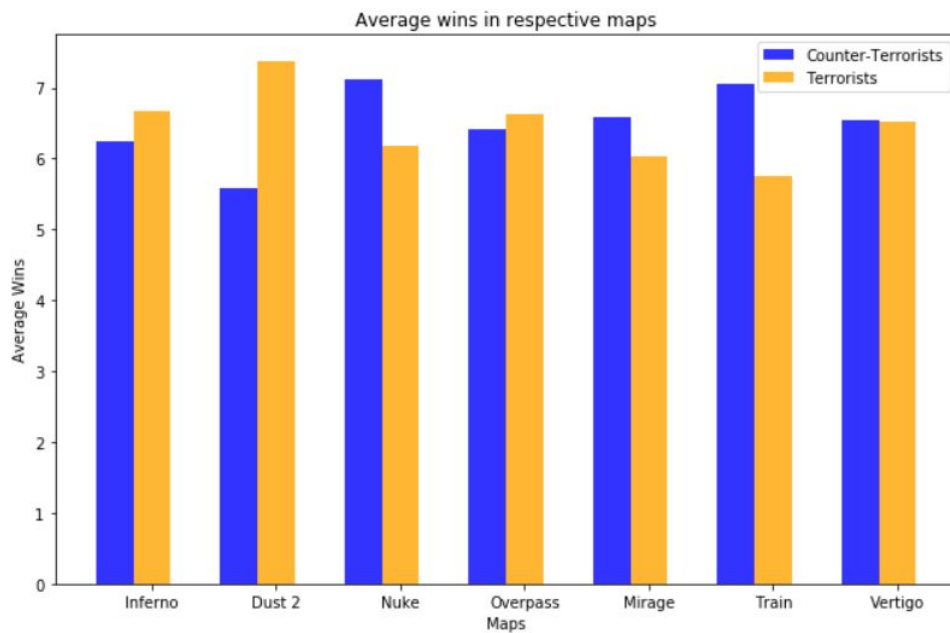
I used the simple average to calculate for each map wins as “Average T Wins” and “Average CT Wins”. Then the data was used to create Visualization in the form of a bar graph.

I also used the dataframe to find which maps are most played in the tournaments this was achieved by the value counts methods.

	Map	Avg Wins CT-side	Avg Wins T-side
0	Inferno	6.253968253968254	6.664
1	Dust 2	5.584745762711864	7.38135593220339
2	Nuke	7.113207547169812	6.188679245283019
3	Overpass	6.41	6.63
4	Mirage	6.5813953488372094	6.035294117647059
5	Train	7.0476190476190474	5.761904761904762
6	Vertigo	6.538461538461538	6.512820512820513

### 4. Visualization of Data

I created two bargraphs according to the Exploratory data analysis section. I opted for bargraph as it was the most simple way of interpreting the data.



## 5. Conclusion

It is found that despite the map being unbiased, the teams are able to score more points while playing a particular side *i.e. some maps are favorable for a particular side*. For ex- **Terrorists**

**side** tend to **score more** on map **Dust2**, similarly **Counter Terrorists side** tend to **score more** on map **Train**.

#### 6.Future Directions

This information could be used by the Teams to strategise their **Map & Side preferences** or even develop skills/prepare game-plan accordingly.

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