Case Study: Valorant Champions 2024 - Players Analysis.

# Introduction:

In this case study I’ll be preparing, processing and analyzing data from the Valorant Champions Tour 2024 tournament.

As a gamer, I find it very interesting to see data and stats of matches and players, in this case study, I’ll be mainly analyzing players statistics throughout the VCT Champions 2024, such as: players overall performance (ADR, KDA, Clutches, Multi-kills), player performance relative to their team’s performance.

So, in this case study, I’ll be using the APPASA (Ask, Prepare, Process, Analyze, Share, Act) protocol, taught in the Google Data Analytics Professional Certificate. Each step was documented and reported to be transparent and clear about the process made on the project.

# Preparation and Processing:

The datasets are gathered from Kaggle, through the Valorant Champion Tour 2021-2024 Data by Ryan Luong[[1]](#footnote-1). They have a 10.0 usability and are licensed by MIT; the data was scrapped from the <https://www.vlr.gg/vct-2024> website using a web scrapping Python script.

The data will be cleaned and processed through Excel and RStudio, this process will involve verifying if any null value should be 0, if there’s any duplicate values, filtering and sorting columns to clean the dataset.

It was used two datasets to analyze players stats, “players\_stats” and “kills\_stats”. Both spreadsheets were filtered to be only the Valorant Champions 2024 tournament stage and all match types, the “players\_stats” sheet was filtered to only contain each player stats once per stage, players have stats for each agent played and for all agents combined, it was filtered to only contain all matches played for each player. Each column was formatted to be the correct data type, as some columns were automatically made to be different types.

To keep only the total rounds played column, it was used two formulas in Excel, “=MAX(IF($D$2:$D$1000=D2, $G$2:$G$1000))” to compare each players values and find the value with most rounds played, and “=IF(G2=H2, "Keep", "")” to index the values that would be kept in the sheet. Then filtered by the values that had Keep, to clean out duplicate player rows.

Both datasets were imported to RStudio using read\_csv, to begin analysis, the datasets were verified for integrity, to see if all players and all teams were appearing only once. The data was cleaned with trim and were added an abbreviation column to both datasets using R’s mutate function, the teams’ abbreviations were collected from the official Valorant Champions broadcast.

# Analysis and Visualization:

We analyzed trends and patterns on the players ratings, multikills count, general player performance and grand finals players statistics.

The first analysis was the top 10 players by rating, where we analyze the best players by rating throughout the tournament. With this analysis we did a similar one, but with only player from the grand finals. Where we found that the winner’s team had more players on the top 5 than the losers.

It was analyzed the max count of multikills per player, and we could see that the MVP ZmjjKK was remarkable on his impact regarding multikills. When analyzing first kills vs. total kills, we can see ZmjjKK once again leading the charts for first kills and being pretty high in total kills, most of the total kills top players are from the grand final’s teams, likely due to them having played more total maps than the rest of the competition. It’s possible to see that most of the top first kills players are duelists, implying that they’re the first to take contact and secure first kill.

When analyzing the average damage per round and average combat score, it’s possible to see that duelist role players dominate the charts as well. Being the first contact on combats and on most of the cases, the best players on their teams, duelists are the most impactful players when it comes to combat score and kill count.

All graphs and charts were made using R’s library ggplot2, and some are interactive duo to the sheer number of players the charts contain.

# Conclusion:

Overall, the analysis provides a comprehensive view of how individual performances and team strategies played out in the Valorant Champions 2024 tournament. The detailed exploration of multikills, first kills, and overall damage metrics helps to showcase the strengths of different roles and how they contribute to a team’s success.

It’s interesting the things data can teach you, through graphs and charts all the way to tables and lists. We saw statistics that most people don’t even think about, and when you put them to perspective from reality, it’s when it really shows that data is everything.

This case study not only demonstrates the importance of data-driven insights in esports but also highlights the analytical tools and techniques—like R, ggplot2, and Excel—that can be employed to extract valuable insights from complex datasets.

It was quite fun doing this case study, I hope I could showcase some of my knowledge on the tools and analysis concepts. I’m looking forward to working with R and analyzing more interesting data, from now on, I’m excited to the new projects I’ll be working on.

1. https://www.kaggle.com/datasets/ryanluong1/valorant-champion-tour-2021-2023-data/data [↑](#footnote-ref-1)