**FIFA 22 Player Dataset Analysis Report**

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**## Executive Summary**

This analysis explores the FIFA 22 player dataset, covering various aspects such as player ratings, market values, age-related statistics, and player attributes. The analysis aims to provide insights into the characteristics of players in the dataset.

**## Data Overview**

- The dataset was loaded from the file "players\_22.csv." - Basic information about the dataset was displayed, including the first few rows, data types, and null value counts.

- Missing values were handled for both numeric and categorical columns, utilizing mean imputation and placeholder values.

**## Descriptive Statistics**

- Descriptive statistics, including mean, standard deviation, minimum, and maximum values, were calculated for numeric columns.

**## Player Ratings Analysis**

1. \*\*Highest and Lowest Rated Players:

- Identified the player with the highest overall rating and provided details.

- Identified the player with the lowest overall rating and provided details.

2. Top and Bottom 5 Players by Overall Rating:

- Identified the top 5 players with the highest overall ratings.

- Identified the bottom 5 players with the lowest overall ratings.

3. Market Value Analysis:

- Identified the top 5 players with the highest market values.

- Identified the bottom 5 players with the lowest market values.

**## Scatter Plots**

1. \*\*Age vs. Overall Rating: - Created a scatter plot to visualize the relationship between age and overall rating.

2. \*\*Market Value vs. Overall Rating: - Created a scatter plot to visualize the relationship between market value and overall rating.

3. \*\*Age vs. Wage and Market Value: - Created scatter plots to explore the relationships between age and wage, and age and market value.

**## Additional Analyses**

1. \*\*Average Overall Rating of Players at Age 35:\*\* - Calculated the average overall rating of players aged 35 or older.

2. \*\*Individual Player Details:\*\* - Extracted and presented key details about Cristiano Ronaldo.

3. \*\*Correlation Matrix:\*\* - Examined the correlation between overall ratings, market values, age, potential, and wages using a heatmap.

**## Positional and Attribute Analyses**

1. \*\*Distribution of Players Based on Skill Moves:\*\* - Visualized the distribution of players based on their skill moves.

2. \*\*Distribution of Players Based on Work Rate:\*\* - Visualized the distribution of players based on their work rates.

3. \*\*Distribution of Players Based on Preferred Foot:\*\* - Visualized the distribution of players based on their preferred foot.

**## Conclusion**

This analysis provides a comprehensive overview of the FIFA 22 player dataset, covering player ratings, market values, and various player attributes. The visualizations and statistical summaries offer valuable insights for further exploration. For any inquiries or additional analyses, please contact the author.