

Title: Predicting the value of an individual baseball player

Names: Heath Riggs

Data sources: one singular CSV that contains the batting statistics of all the 2024 MLB players

Methods: [`pd.read_csv\(\)`](#) - Load data from CSV file

[`df.copy\(\)`](#) - Create a copy of [`DataFrame`](#)

[`df.reset_index\(\)`](#) - Reset [`DataFrame`](#) index

[`df\[df\['AB'\] >= min_ab\]`](#) - Filter data with condition

[`df.apply\(\)`](#) - Apply function to [`DataFrame`](#) rows/columns

[`df.loc\[\]`](#) and [`df.iloc\[\]`](#) - Access data by position/label

[`df.sort_values\(\)`](#) - Sort [`DataFrame`](#) by column

[`df.head\(\)`](#) - Get first n rows

[`df.iterrows\(\)`](#) - Iterate through [`DataFrame`](#) rows

[`df.corr\(\)`](#) - Calculate correlation matrix

[`df.nlargest\(\)`](#) - Get rows with largest values

[`df.select_dtypes\(\)`](#) - Select columns by data type

[`LinearRegression\(\)`](#) - Create linear regression model

[`model.fit\(\)`](#) - Train regression model

[`model.predict\(\)`](#) - Make predictions

[`r2_score\(\)`](#) - Calculate R^2 score

[`plt.figure\(\)`](#) - Create figure

[`sns.heatmap\(\)`](#) - Create correlation heatmap

[`sns.barplot\(\)`](#) - Create bar chart

[`sns.scatterplot\(\)`](#) - Create scatter plot

[`plt.title\(\)`](#), [`plt.xlabel\(\)`](#), [`plt.ylabel\(\)`](#) - Add chart labels

[`plt.annotate\(\)`](#) - Add annotations to chart

[`plt.plot\(\)`](#) - Plot lines

[`plt.tight_layout\(\)`](#) - Adjust plot spacing

[`plt.savefig\(\)`](#) - Save figure to file

- Results include correlation between particular stats and WAR, Calculating war for 2024 season, get the two stats with the highest correlation to WAR and calculate r^2 values, creating a correlation heatmap, war correlation bar chart, r^2 visualization, a prediction model, a prediction of war values for the 2025 season using 2024 stats and creating a prediction scatter plot, and created a list of the top 15 predicted players for the 2025 season by WAR and made a chart of it



- I'm finished, so no real roadblocks. I also didn't have anything too substantially frustrating during the process.