NBA Prospects Prediction Tool

Introduction:

Welcome to the NBA Prospects Prediction Tool! This innovative tool empowers users to evaluate the potential transition of current NCAA basketball players to the NBA by leveraging advanced statistical analysis. By comparing the performance metrics of present-day collegiate athletes with those of past and present NBA success stories, this tool generates a nuanced percentage prediction, aiding in the classification of NCAA players as prospective NBA talents.

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Getting Started

Before you start using the program, ensure you have the following files in the same directory as the program script:

- final_project.py: Contains the code that makes up the prediction tool
- nba.csv: Contains the stats (rebounds, points, assists) of the selected nba players.
- ncaa.csv: Contains the stats (rebounds, points, assists) of the selected ncaa players.

Running the Prediction Tool

To unleash the power of the NBA Prospects Prediction Tool, execute the following command in the terminal:

- Mac: Python3 ncaa.csv nba.csv
- PC: ncaa.csv nba.csv

Interacting with the Tool

Once inside the world of predictive analytics, engage with the tool using these key steps:

- Loading Data: When you run the tool, it automatically loads data from your CSV files. No need to worry about data entry.

- Calculating Z-scores: It calculates Z-scores, comparing how NCAA players stack up against NBA legends. This helps us understand the strengths and weaknesses of current players.

- Training the Model: The tool is like a coach, training a model to make predictions. It studies key stats like Points Per Game, Rebounds Per Game, and Assists Per Game to improve its forecasting game.

- Predicting NCAA Players: The tool predicts the likelihood of NCAA players becoming NBA prospects. The predictions are sorted, giving you a ranked list of potential future stars.

- Visualizing Data: For the visual learners out there, the tool offers a cool feature. You can see the distribution of a specific statistic with a simple bar chart.

- Making your own predictions: This tool is not limited to the players we put in the csv files. You can add any NCAA player and see if they will make it to the nba.

Exiting the Tool

Wrap things up by closing the terminal or command prompt. The tool is always ready for your next analysis whenever you are!

Conclusion

Now equipped with the NBA Prospects Prediction Tool, you can explore the world of NCAA and NBA basketball stats effortlessly. For any questions or challenges, refer back to this documentation.

Attribution:

Method/function	Primary author	Techniques
CustomLogisticRegression	Allan Harvey	Gradient Descent, NumPy
sigmoid	Allan Harvey	Sigmoid Function
NBAProspectsClassifier	Omar Humeida	Data Loading, Pandas
Train_model	Kwabena Boohene	Model Training, Logistic Regression, NumPy
Calculate_z_scores	Kwabena Boohene	Statistical Analysis, Pandas, NumPy
Predict_ncaa_players	Omar Humeida	Model Prediction, Pandas, NumPy
Main	Collaborative	Command-Line Arguments, Overall Integration