Fantasy Football Draft Assistant

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***Abstract* - Fantasy Football is a game in which people gather to compete against each other based on the players they draft to be on their team. Although Fantasy Football has been around for a while, many new players are unfamiliar with the art of drafting a winning team. The goal of this project is to enable newer players, or players with less experience, to be able to compete against those who are experienced.**

Keywords - Assistant, points per reception, fantasy football, draft

I. OBJECTIVE

The primary objective of the fantasy football draft assistant is to provide users with a player-specific analysis to improve the outcome of their fantasy football team. As the current fantasy football season has already begun, this assistant will be focused on generating a mock team for the 2025 season. A mock draft will be simulated that will assist in creating an accurate team generation environment. Once the team using the fantasy football draft assistant has been created, the performance can be analyzed based upon how each player is currently performing in the active season. This validation metric will provide evidence of how useful the draft assistant actually is, and while ignoring inevitable injuries, can provide information about how to improve the draft assistant for future use.

II. MOTIVATION

Most of the draft assistants that already exist are not actually tailored towards making a winning team. For example, those who use the auto draft features within ESPN's fantasy football system typically end up with teams that do quite poorly. These systems typically do not take into account player/team chemistry which is extremely important in drafting a winning team. The overall goal of this project is to create better-performing teams than the draft assistants that already exist. Anyone who is a beginner in fantasy football should have the opportunity to draft a good team, despite any lack of knowledge the drafter might possess.

III. KAGGLE DATASET ANALYSIS

To assist us in reaching our goal, we will be using a Kaggle dataset that contains statistics of players [1]. The portion of the dataset that this draft assistant will utilize will be the player and team stats from the year 2024 only. The reason for this decision is that statistics from earlier years, such as 2012, provide zero benefits as most of the stars in this era will be either retired or no longer in their prime.

Looking deeper into the 2024 data, some of the most valuable metrics will be season passing yards, season receiving yards, season pass attempts, season complete pass, season rush attempts, season rushing yards, season fantasy points ppr (points per reception), etc. There are many more useful metrics available, but the ones provided illustrate the sort of data that can be exploited. Season fantasy points ppr will be directly useful in determining how desirable a player is; however, this assistant can be better than others by utilizing additional metrics such as number of attempts and analyzing other players connected to how well our desired player performs. How productive a player is per attempt is not really that beneficial if that player only receives a handful of attempts per game. A player could be the best wide receiver in the league, but without a good quarterback to support him, the wide receiver is unlikely to perform very well. These additional metrics that do not necessarily directly relate to how many points a player receives, are the metrics that will make this draft assistant appear closer to a human draft picker.

IV. MEMBER RESPONSIBILITIES

Chris will lead the cleaning/formatting of the data so that it contains only the columns that we find relevant (there are currently 660 columns for the yearly offensive player, many of which are not relevant to crafting predictions based upon previous years performance).

Braeden will define a metric to organize players based upon the desired priority during a draft. This will combine columns from our dataset and transform these values into a single number that signifies the player's draft value. This might be accomplished through using machine learning techniques or by simply taking averages of values. This will be determined based upon how much normalization and adjustments are needed to make the data usable.

Both team members will evaluate the performance of the assistant by performing a mock draft where the generated team will be composed of decisions made entirely based on the assistant's decision. The generated team's performance will then be evaluated based upon the week-by-week performance of the team (compared against Braeden's current drafted week-by-week performance). This will provide insight into the performance of the assistant.

Both team members will finalize the assistant by making necessary tweaks and adjustments, and write the final report.

V. TIMELINE

Weeks	Tasks
Week: 1	Finish gathering data
Week: 2-3	Clean/Format data
Week: 4-5	Work on finding trends between players
Week: 6-7	Implement an ML algorithm to draft players based on the player draft value metric
Week 8-9	Finalize the algorithm for drafting and compare it to Braeden's team

VI. EXPECTED OUTCOME

The developed fantasy football assistant should be able to generate a team that is, at a minimum, able to perform better than the worst member in Braeden's current fantasy league. A very successful project would be an assistant that is capable of producing a winning record throughout a season.

The assistant should allow new fantasy football players the ability to join leagues with more experienced friends, and still be able to compete at a high level. New players should ultimately be able to join in on the experience without feeling overwhelmed and intimidated.

REFERENCES

[1] Hyde, Philip. NFL Stats 2012-2024. Kaggle, 2025. https://www.kaggle.com/datasets/philiphyde1/nfl-stats-2012-2024