Introduction:

Scout Global is a game-changer in international basketball scouting, offering NBA scouts instant access to over 2700 players worldwide. Designed to bridge the gap between international leagues and the NBA, Scout Global's dashboard provides comprehensive player profiles, complete with detailed stat sheets and radar chart visualizations. With the ability to filter players by position and access analyses generated by Language Learning Models (LLMs), Scout Global empowers scouts to uncover hidden talent and reshape the future of basketball on a global scale.

Development:

Throughout the development journey of Scout Global, our team encountered and navigated numerous challenges and iterations to create a powerful scouting tool aimed at uncovering international basketball talent for NBA teams. Our journey began with an in-depth exploration of the intricate pipeline into the NBA, where we identified the disparity in opportunities for international players, particularly due to recruitment practices centered around high school prospects, compounded by rules like the one year removed rule. Formally defining our problem statement, we sought to democratize access to statistics on international athletes, thereby leveling the playing field and fostering a more connected global basketball community. However, our initial technical hurdle surfaced in acquiring clean and reliable stats, prompting us to leverage multiple data sources such as basketball-reference.com and the NBA 2K dataset. Through the integration of datasets using athlete names as primary keys, we successfully merged rankings and comprehensive stat sheets, laying the groundwork for robust player evaluation.

As we delved deeper into generating positional ratings, we employed rigorous statistical methodologies to navigate the complexities of basketball analytics. Initially, we linearly correlated our dataset features with rankings, establishing a foundation for feature selection. To validate the significance of these features, we conducted hypothesis testing, ensuring that their p-values fell below the threshold of 0.05. Armed with this refined feature set, we proceeded to calculate a linear combination of key attributes, thereby generating comprehensive positional ratings.

Moreover, to assess the predictive accuracy of our model, we subjected it to rigorous testing against the top players. Through cross-referencing player positions and playstyles, we scrutinized the model's ability to discern nuanced performance attributes across all five positions on a team. Leveraging our backgrounds in statistics and deep domain knowledge of the sport, we discerned intricate trends within our dataset, laying the groundwork for a robust evaluation framework capable of assessing a player's adaptability and performance across various team roles.

In our pursuit of enhancing user experience, we engineered a dynamic website using a robust tech stack comprising HTML/CSS, React.js, and efficient database management systems. This technological synergy allowed us to present comprehensive player statistics in a clear and

intuitive manner, facilitating seamless navigation for NBA scouts. By incorporating advanced filtering mechanisms, scouts could easily refine their search based on player positions, ensuring that international talent receives the visibility necessary for equitable opportunities.

Within our team, half of us delved into web development intricacies while the other half focused on generating positional rankings concurrently. This parallel approach necessitated a seamless exchange of outputs and insights between the two teams. Leveraging version control systems like GitHub, we maintained a cohesive workflow, ensuring transparency and collaboration across all stages of development.

Whats next?

Over the course of the development of our app we had to make many assumptions, especially when it came to weighing our features to generate positional ratings. The naïve assumption is to weigh uniformly since each feature is strongly correlated to a better ranking. However, these weights could be skewing trends that we are not seeing, in the future we can advance this model by analytically determining feature weights and how many features to use. Another area we want to improve on is determining player ranking projections into the NBA and to also estimate growth using comparisons on NBA to international leagues and historical statistics. We could not implement these ideas over the weekend but are excited to advance our model with these changes.