I was recently listening to a NBA podcast with coach Stan Van Gundy of the Detroit Pistons. In the podcast, coach Van Gundy mentioned that he has not been impressed with basketball analytics as they relate to performance on the defensive side of the ball. After doing some research I found that defense analytics get prohibitively less attention in the analytics community then does offense analytics. For that matter, I found that defense analytics in general tends to command less attention than offense analytics in all sports that use analytics for team and player improvement.

For my capstone project I plan to analyze and make recommendations for improving the defensive capability of the Detroit Pistons. The analysis will be based on the current personnel, lineups, defensive schemes, etc. Furthermore, it will take into account competitor performance as to gauge what changes need to be made to roster both defensive and offensive to improve the team’s win percentage in the upcoming season.

This project is of great value to the Detroit Pistons organization. Every NBA franchise is looking for a way to get an edge on the competition for the purpose of winning a national championship. Winning a championship offers significant benefits to the franchise. It secures jobs. It brings more revenue to the team and the players. It generates income in the local economy and it helps in creating a sense of cheer and optimism among the fans and the community.

Regarding the approach, I plan to look at a variety of different data sets that reflect defensive prowess. I want to show the relationship between these stats as they pertain to defensive success. Stats.nba.com provides a lot of interesting stats that are not directly related to a defensive scheme but they predict individual player defensive success. These stats include hustle stats like deflections, loose balls recovered, contested 2-point shots, charges drawn and more. My approach is to look at these stats for each position. I want to build a model of the ideal player performance for a position in a particular scheme and compare to the Detroit Pistons personnel to uncover gaps.

The main data set I will be using for the analysis comes from stats.nba.com. The NBA has recently instituted data capture methods that produce analytics data at a more granular level. In addition to traditional defensive statistics like steals, blocks, and defensive rebounds, there now exists metrics that take a deeper look at team and player performance.

The final deliverable will be developed for the President of Basketball Operations of the Detroit Pistons. It will contain the presentation and methodology used to draw conclusion. The presentation will contain recommendations for roster, lineup and defensive scheme changes. Furthermore, it will incorporate NBA player salary and team salary cap information.