Project Proposal
by Max Englander

Identification of Trends that Predict NBA Player success based on NCAA Statistics using ML:

For my final project, I want to use machine learning to analyze statistics from NCAA men's basketball prior seasons to see if there is one or multiple statistics that can be used to accurately predict if a college player will become a successful pro player in the NBA. Historically, the NBA draft has been a crap-shoot outside of the top 3 picks, and even those top picks can "bust" and not live up to their expectations. My idea is to use various different models learned through this semester along with various different statistics to see if there is a combination that can accurately predict success.

"Success" will be defined as a player reaching All-Star/All-NBA status, and may be adjusted to reaching a certain threshold of advanced statistics (ex: a player is considered "successful" if they reach a certain win-shares/48 minutes level).

Necessary resources:

- Statistics from past collegiate seasons. These stats can be basic (points, assists, rebounds, FG%) or more advanced (DWS, OWS, Box +/-, TS%, EFG%).
- Statistics from past NBA seasons, specifically stats of players that were drafted out of college. (will use the same stats as the ones used for college)

Previous research in this area:

- There has been research that has explored the connection between NCAA and NBA players and what can predict success, as this study called *Explaining NBA Success for Players with Varied College Experience* by Cody Ashley (https://fisherpub.sjfc.edu/cgi/viewcontent.cgi?article=1140&context=sport_undergrad) looks into how much the amount of time spent in college influences success.
- A previous study called *The Success of NBA Draft Picks: Can Colllege Careers Predict NBA Winners?* By Alexander C. Greene (https://repository.stcloudstate.edu/cgi/viewcontent.cgi?article=1002&context=stat_etds) also researched a very similar topic.