Seattle Storm Home Win Model

Seattle Storm Home Game Win Logistic Regression Model

As a longtime fan of women's sports, specifically women's basketball, I wanted to do a project that allowed me to merge a personal interest and the material from this class. After seeing a video from a women's basketball content creator (wnbadata), I was inspired to run a logistic regression on the effect of Mt. Rainier on the Storm's ability to win a home game.

I began by creating three separate CSV files: game data, opponent data, and weather effects. The game data CSV included the date, season, opponent, points scored by each team, point differential, and time of tip-off for each Seattle Storm game from 2016-2025. I assigned a binary value (Win = 1, Lose = 0) as well as a "Home/Away" value, and scraped the data to include only games played at Climate Pledge Arena in Seattle. Due to COVID restrictions in 2020 and remodelling efforts in 2021, the Storm did not play those seasons in Seattle. As a result, the data from those seasons was not included in the final predicting widget. The opponent data gave each team a power score, which was determined by calculating total wins before the game was played divided by the total number of games played in the season before the game. A power score was also given to the Storm using the same formula. Because the first game of the season starts at 0-0, the team's previous season record was used as their power score. The power score restarted every season to account for trades and coaching changes. The mountain data was found using live-stream cameras placed in the Space Needle. Using the time of tipoff, I downloaded the weather conditions (rain, temperature, visibility, and cloud cover) at that time and used the image of the mountain to give a score of 0, 0.5, or 1. A score of 0 meant the mountain was not visible, 0.5 meant the mountain was partially visible, and 1 meant you could clearly see the mountain. The model coefficients were estimated using MLE: z = 2.0014- 1.4320 (Storm Strength)−1.5402(Opponent Strength)−0.2912(Mountain Visibility). P(Storm win) was then found using 1/1+e^-z.