MVP of Analysis of the Sports Injuries

In this project, I will talk about stadium injuries, their causes, who are most vulnerable to injury, and how to avoid and treat injury.

in the beginning I import the library, then I cleaned the Data by making it the column lower case, replace the comma “,”, dash “-” and space “ ” underscore “\_”.

Chart

Description automatically generated

The correlation heatmap was used to find the correlation between factors

Chart, bar chart

Description automatically generated

This figure depicts the number of injured = 1 and uninjured = 0 players. The large disparity in the number of injured and uninjured players is because Dataset is unbalanced.

To start exploring this goal I used a Logistic Regression Model as a base, and I used the

Decision Tree Model, the table below exploring the compare between the two models :

|  |  |  |  |
| --- | --- | --- | --- |
| Logistic Regression | | | |
|  | Accuracy | Recall | Precision |
| 0 | 0.99 | 1.00 | 0.99 |
| 1 | 0.00 | 0.00 |

|  |  |  |  |
| --- | --- | --- | --- |
| Decision Tree | | | |
|  | Accuracy | Recall | Precision |
| 0 | 0.97 | 0.99 | 0.99 |
| 1 | 0.09 | 0.11 |

From the base level we can observe that the Logistic Regression performs was not efficient. Further study will be conducted to find better algorithm and  we will use SMOTE Technique to fix the data imbalance problem.