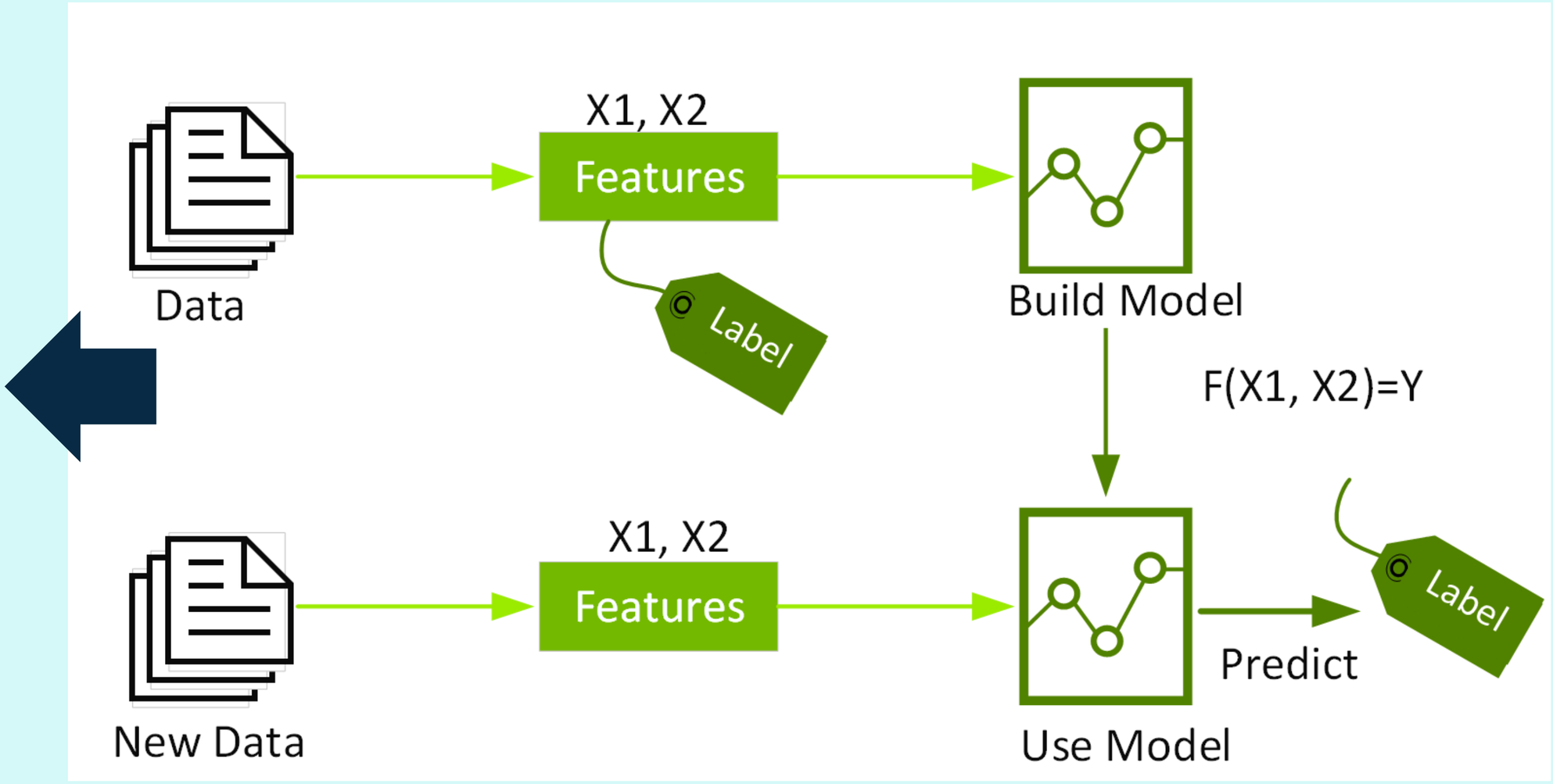
XGBoost

An open-source library for a gradient boosting algorithm that combines weak learners to form a strong learner. It works by training decision trees on subsets of data (**NIL budgets, Team Win %, Position**).

It is an improvement on GBM (Gradient Boosting Machines) that prevents overfitting (matching training data too closely).


Data
X1, X2
Features
Label
Build Model
F(X1, X2)=Y
New Data
X1, X2
Features
Use Model
Predict
Label

Results

What factors are most likely to influence a player to transfer from their current school?

According to our model, the factors most likely to influence a player's transfer decision are their **destination school's 2023 win percentage** (0.9157), their **destination school's NIL collective amount** (.0241), their **original school's NIL collective amount** (0.0102), and their **position** (0.0101).

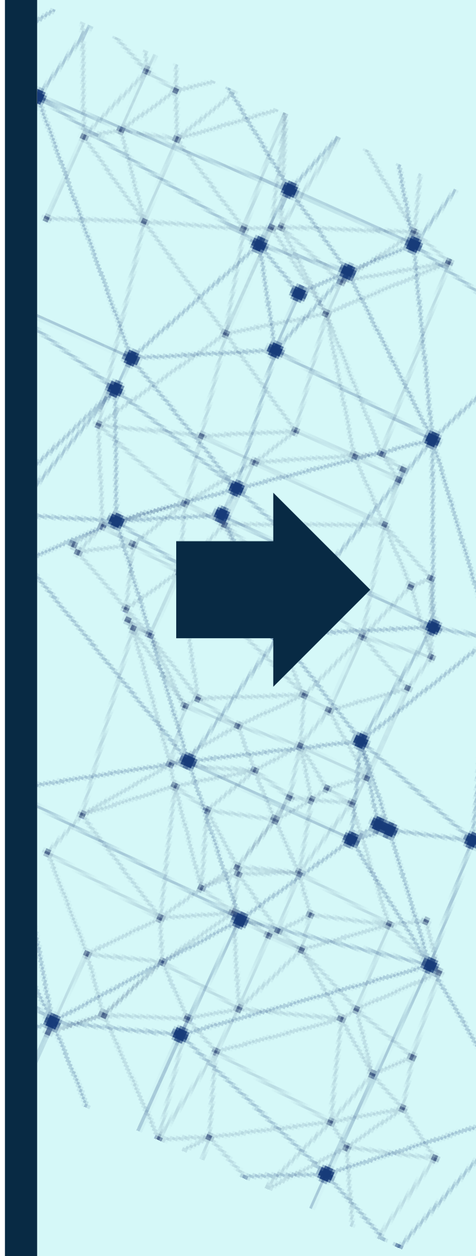
Our model had an overall mean squared error of 0.0764, meaning that our model is roughly 7.64% on average in predicting values compared to actual values.

Results

Which schools lose the most players from their transfer portal?

The top five schools are:

1. Colorado
2. Tennessee
3. Mississippi State
4. Florida State
5. Ole Miss



Results

Which players are most likely to transfer out of their team and into a different school in the Mountain West?

1. Tate Martell (QB UNLV)	1.0345
2. Jordan Jakes (WR Valdosta State)	1.0286
3. Daviyon McDaniel (OL - UNLV)	0.9738

Results

Which players are most likely to transfer out of a team in the Mountain West?

1. Garrett Beckman (OL UNLV)	0.263794
2. Sir Oliver Everett (DB UNLV)	0.231141
3. Tyleek Collins (WR UNLV)	0.284072
4. Kenyon Oblad (QB UNLV)	0.336212
5. Jalen Graves (DL UNLV)	0.220343

Next steps

Which USU players are at risk of transferring according to our model?

Other factors to include in the model:

- Hometown
- Eligibility
- Injuries
- Playing Time
- Academic Longevity
- Climate
- Team Culture