Predicting NBA Success Based on Collegiate Statistics

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Research Question

Can collegiate statistics be utilized in machine learning models in order to predict NBA success?

Datasets

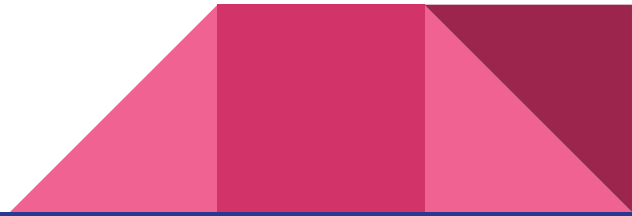
2009-2021 College Stats	2009-2021 NBA Stats
Game, Advanced, Aggregate Stats	Game and Advanced, Stats
53 Statistics	12 Statistics

Data from NBA Reference, NBA Stats, Barttorvik College Data

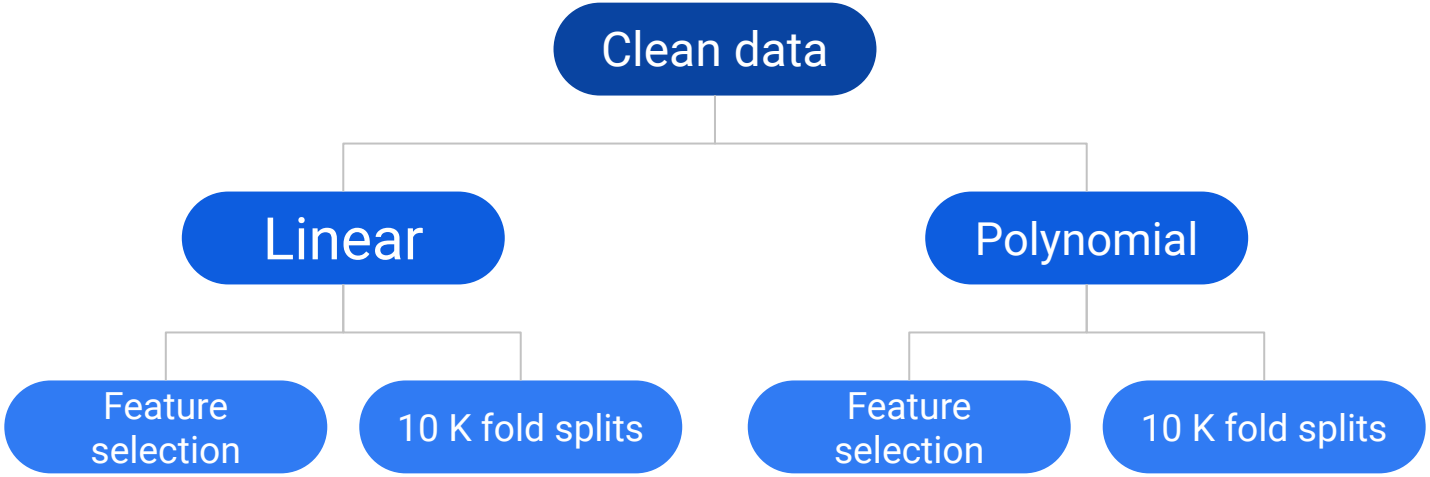
Target value

Determined by an equation of NBA stats which values player success over their career.

EX: 2(PTS)+1.5(AST)+1.2(REB)



Regression models



Selected Features

Linear Model	**Polynomial Model (5th degree)**
Offensive Rating	Minutes
Points Over Replacement Player	Usage
Adjusted Offensive Efficiency	Adjusted Offensive Efficiency
Plus-Minus	Two Point Attempts

Results

- Linear models ~ .325
- Polynomials ~ .315
- Slight decrease with selected features

2015 NBA Draft Class

Predicted (Draft Pick, Observed)	Observed (Draft Pick)	College Draft Order (Observed)
Frank Kaminsky (9, 12)	Karl-Anthony Towns (1, 1)	Karl-Anthony Towns (1)
Karl-Anthony Towns (1, 1)	Devin Booker (13)	Jahlil Okafor (11)
Jahlil Okafor (2, 11)	D'Angelo Russell (3)	D'Angelo Russell (3)
Sam Dekker (18, 22)	Myles Turner (11)	Willie Cauley-Stein (10)
D'Angelo Russell (3, 3)	Terry Rozier (16)	Stanley Johnson (21)
Jerian Grant (19, 20)	Josh Richardson (40)	Frank Kaminsky (12)
Cameron Payne(14, 15)	Montrezl Harrell (32)	Myles Turner (4)
Bobby Portis (22, 8)	Norman Powell (46)	Justise Winslow (16)
Devin Booker (13, 2)	Bobby Portis (22)	Trey Lyles (14)
Justin Anderson (21, 24)	Willie Cauley-Stein (6)	Devin Booker (2)