



HOW TO BECOME A NHL ANALYST FROM SCRATCH

IRONHACK FINAL PROJECT - MACHINE LEARNING



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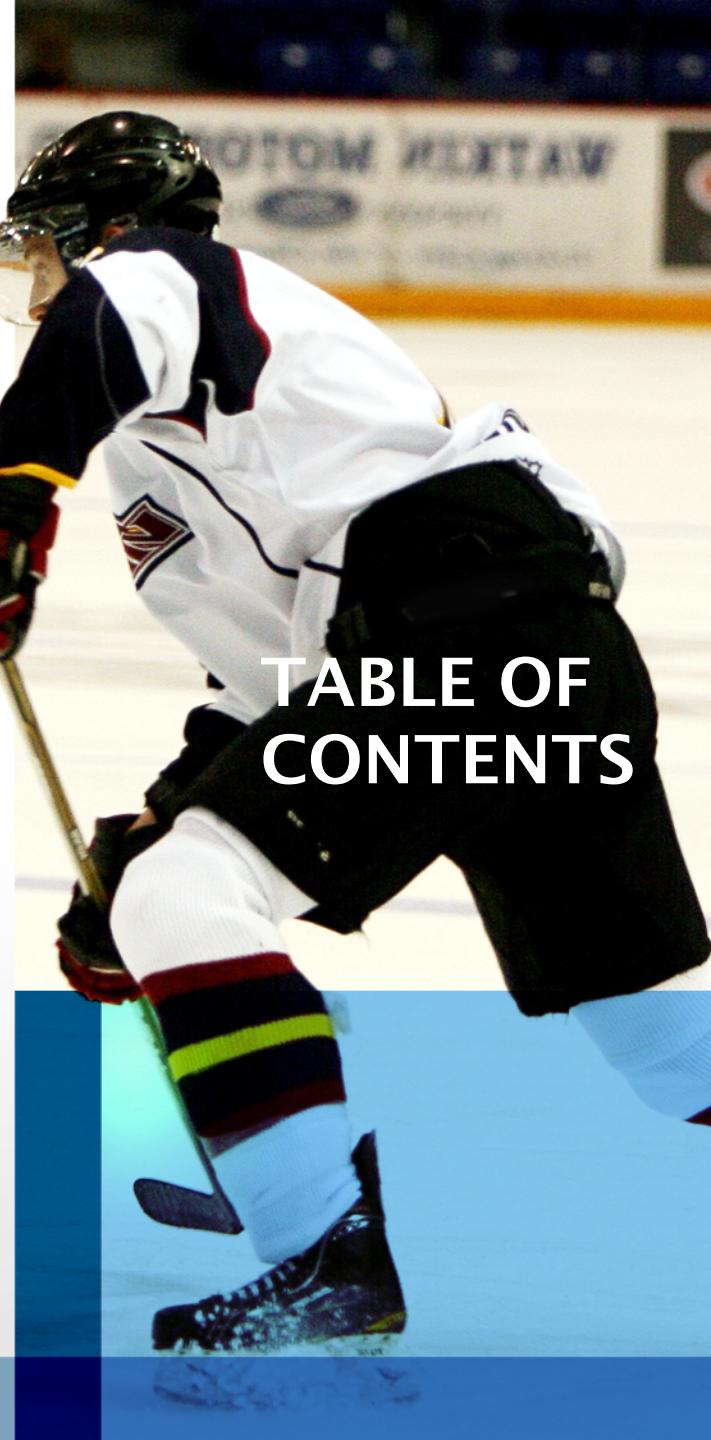


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SCENARIO



Could I beat any average NHL fan in a NHL Pool game without having watched a game?

Be able to predict which teams are going to make the playoffs

Be able to predict the players performance



STRUCTURE OF THE LEAGUE

32 TEAMS

- 20 PLAYERS IN THE ROASTER - 3 MORE TO COVER INJURIES
- 6 PLAYERS IN THE LINE UP
 - 1 CENTER —————→ *Points = Goals + Assists*
 - 2 FORWARDS - LEFT & RIGHT —————→ *Points = Goals + Assists*
 - 2 DEFENSES —————→ *Points = Goals + Assists*
 - 1 GOALIE —————→ *Points = N° Wins*

82 GAMES IN REGULAR SEASON

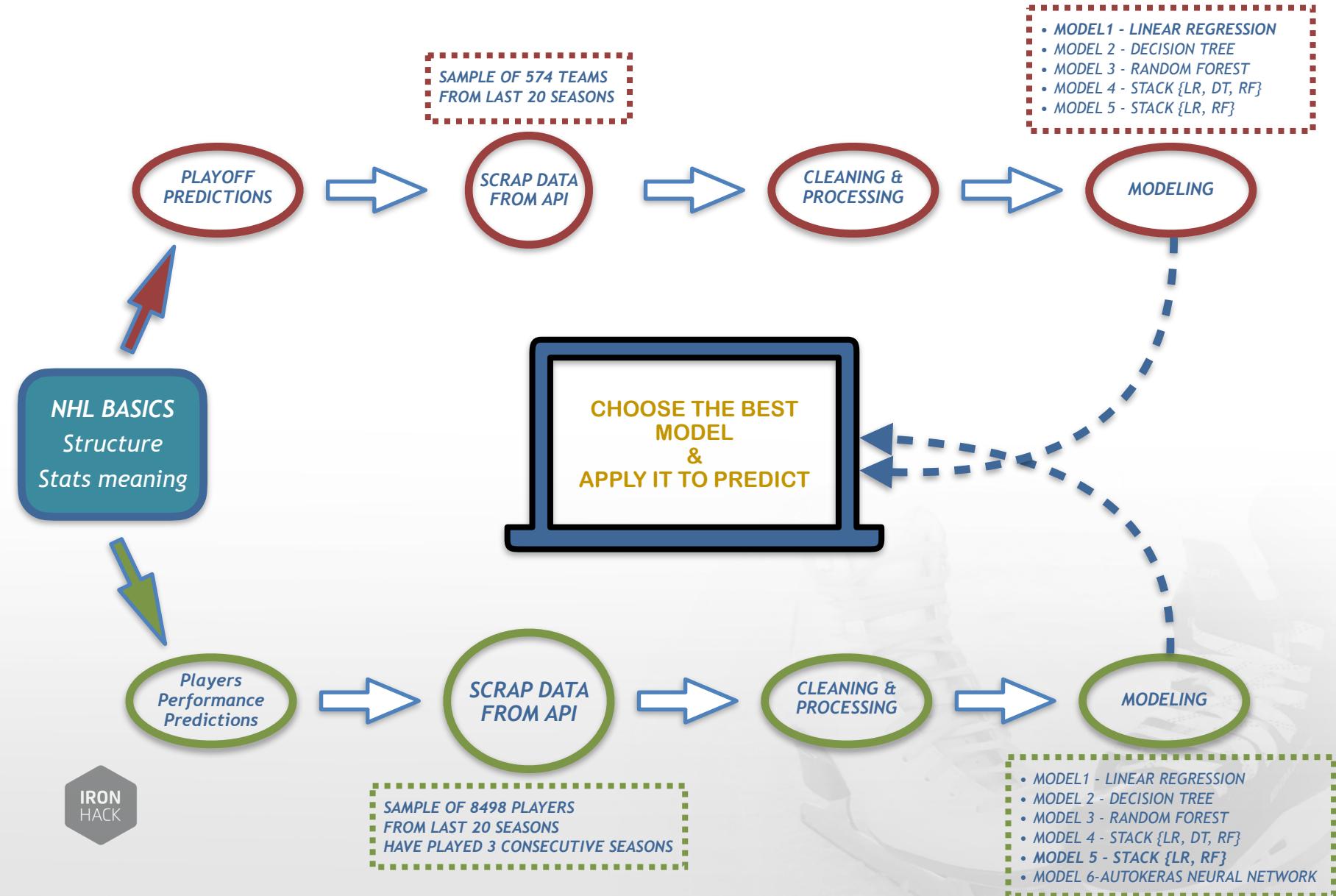


PLAYOFF WITH THE BEST 16 TEAMS
IN REGULAR SEASON

WORKFLOW



- MODEL 1 - LINEAR REGRESSION
- MODEL 2 - DECISION TREE
- MODEL 3 - RANDOM FOREST
- MODEL 4 - STACK {LR, DT, RF}
- MODEL 5 - STACK {LR, RF}



MODEL COMPARISONS



PLAYOFFS

MEAN ABSOLUTE ERROR

- MODEL 1 - LINEAR REGRESSION 0.0486
- MODEL 2 - DECISION TREE 0.0709
- MODEL 3 - RANDOM FOREST 0.0539
- MODEL 4 - STACK {LR, DT, RF} 0.0488
- MODEL 5 - STACK {LR, RF} 0.0488

MY MODEL IS WRONG BY JUST AROUND 4 POINTS PER SEASON

PLAYERS PERFORMANCES

MEAN ABSOLUTE ERROR

- MODEL 1 - LINEAR REGRESSION 0.1151
- MODEL 2 - DECISION TREE 0.1657
- MODEL 3 - RANDOM FOREST 0.1172
- MODEL 4 - STACK {LR, DT, RF} 0.1142
- MODEL 5 - STACK {LR, RF} 0.1142
- MODEL 6 - NEURAL NETWORK 0.1194

MY MODEL IS WRONG BY JUST AROUND 9.4 POINTS PER SEASON

Which teams will make the 2022 PlayOffs?



TEAM TO BEAT



COLORADO
AVALANCHE

Dream Team



HIGHLIGHTS



AS A TEAM MANAGER

TEAM INVESTMENT

DIRECT RIVALS

AS A DATA ANALYST

UNKNOWN DATA

LIVE DATA

NEURAL NETWORKS

REGRESSION MODELS



THANK YOU