Predicting NHL Wins

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galvanize

Why Predict NHL Wins?

- Because hockey is the best...

  but my team is not

- Advanced analytics are

  not used in the NHL

Data

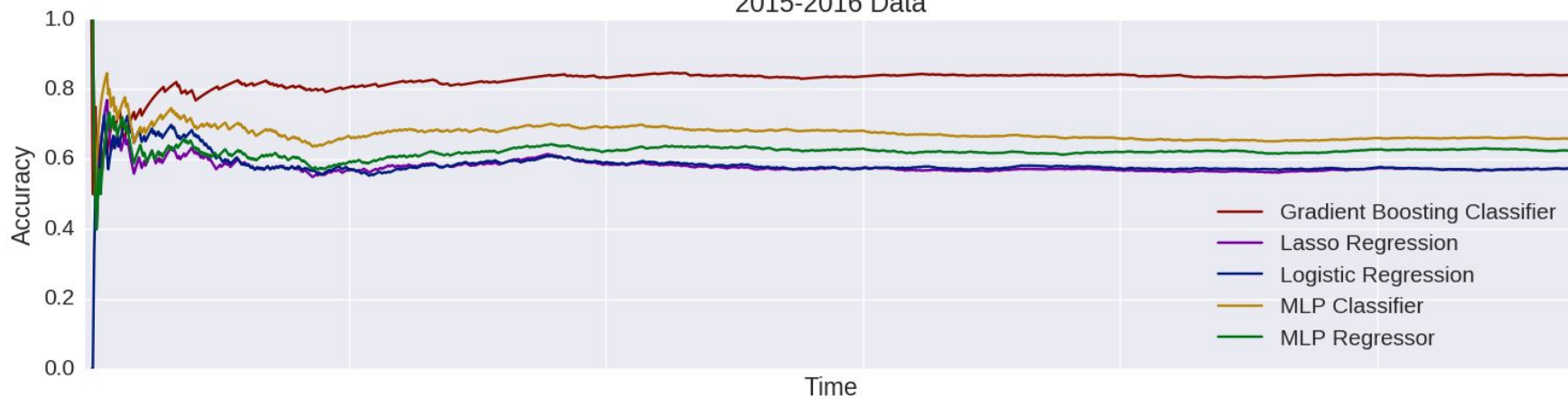|	Home Team	Away Team	Date	Home Team Win	Goal Spread (Home)	Home Team Stats	Away Team Stats
1	MIN	CGY	2016-04-09	0	- 1	From past n games	
2	MTL	TBL	2016-04-09	1	+ 3	• Spread • Wins • Goals • Shots • PP% • FOW% • PIM • Hits	• Blocked Shots • Tkwys • Gvwys • Save% • Shot% • PDO • Corsi
3	NJD	TOR	2016-04-09	1	+ 4		
4	NYI	BUF	2016-04-09	0	- 1		
5	NYR	DET	2016-04-09	1	+ 1		

Data Complexity

- 2 games, 5 games, 10 games, or 15 games?

- Look at team stats separately, or as a ratio?

- Predict Win/Loss or Goal Spread?

- Which variables to keep?

- Train on games from current season or last season?

- Which model is best?

2015-2016 Data

2016-2017 Data

Optimal Model

MLP Classifier

60% accuracy

- Multilayer Perceptron Classifier
- Supervised Artificial Neural Network
  - Advantages: capability to learn non-linear models
  - Disadvantages: highly sensitive, lots of parameters

Home Team	Away Team	Predicted	Actual
ANA	EDM	1	1
CAR	SJS	1	1
CBJ	WSH	0	1
COL	LAK	1	1
DAL	NJD	1	0
DET	TBL	1	0
MIN	CGY	1	0
MTL	FLA	0	0
PHI	OTT	1	0
STL	BUF	1	1
TOR	NSH	1	1
VAN	NYR	1	0
WPG	CHI	1	1

Predictions: 11/15/2016

Home Team	Away Team	Predicted	Actual	
ANA	EDM	1	1	*
CAR	SJS	1	1	*
CBJ	WSH	0	1	
COL	LAK	1	1	*
DAL	NJD	1	0	
DET	TBL	1	0	
MIN	CGY	1	0	
MTL	FLA	0	0	*
PHI	OTT	1	0	
STL	BUF	1	1	*
TOR	NSH	1	1	*
VAN	NYR	1	0	
WPG	CHI	1	1	*

Home Team	Away Team	Predicted	Actual
CGY	ARI	1	1
WSH	PIT	1	1

Home Team	Away Team	Predicted	Actual	
CGY	ARI	1	1	*
WSH	PIT	1	1	*

Home Team	Away Team	Predicted	Actual
ANA	NJD	1	?
BUF	TBL	1	?
DAL	COL	1	?
LAK	EDM	0	?
MIN	BOS	1	?
OTT	NSH	1	?
PHI	WPG	1	?
STL	SJS	1	?
TOR	FLA	0	?
VAN	ARI	1	?

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