INVESTIGATING PLAYER POINT OUTPUT IN THE NHL

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INTRODUCTION

The NHL
- 700+ rostered players
- 32 teams
- Player Points = goals + assists

QUESTIONS:

Is there a relationship between certain stats and player attributes that impact how many points per game a player generates?

What style of play (strategy) should an NHL coach use to maximize points output from his players?

METHODOLOGY

Scrape Data
- Past 2 NHL seasons, 1,500+ Players

➡️

Clean Data
- Discard players with 0 points

➡️

Model Data
- Linear Regression

Skater Statistics

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eHOCKEY REFERENCE

| | | | | | | Scoring | | | | | | | Special Teams | | | Assists | | | Shot Data | | Ice Time | | | | | | |
Rk	Player	Age	Tm	Pos	GP	G	A	PTS ▼	+/-	PIM	PS	EV	PP	SH	GW	EV	PP	SH	S	S%	TOI	ATOI	BLK	HIT	FOW	FOL	FO%
1	Connor McDavid	24	EDM	C	56	33	72	105	21	20	13.0	24	9	0	11	44	28	0	200	16.5	1241	22:09	24	61	316	322	49.5
2	Leon Draisaitl	25	EDM	C	56	31	53	84	29	22	10.9	15	15	1	8	36	17	0	168	18.5	1243	22:11	12	37	574	457	55.7
3	Brad Marchand	32	BOS	LW	53	29	40	69	26	46	9.6	21	4	4	5	23	14	3	143	20.3	1002	18:55	11	66	11	24	31.4
4	Mitch Marner	23	TOR	RW	55	20	47	67	21	20	7.3	20	0	0	5	31	14	2	156	12.8	1233	22:26	41	23	4	1	80.0
5	Patrick Kane	32	CHI	RW	56	15	51	66	-7	14	6.1	12	3	0	3	32	19	0	191	7.9	1245	22:14	15	13	2	5	28.6

MODEL DETAILS

Stats & Attributes (features):
Player Age
Player Height
Blocks per game
Hits per game
Shots on goal
Shift Length (in seconds)
Shoots left/right
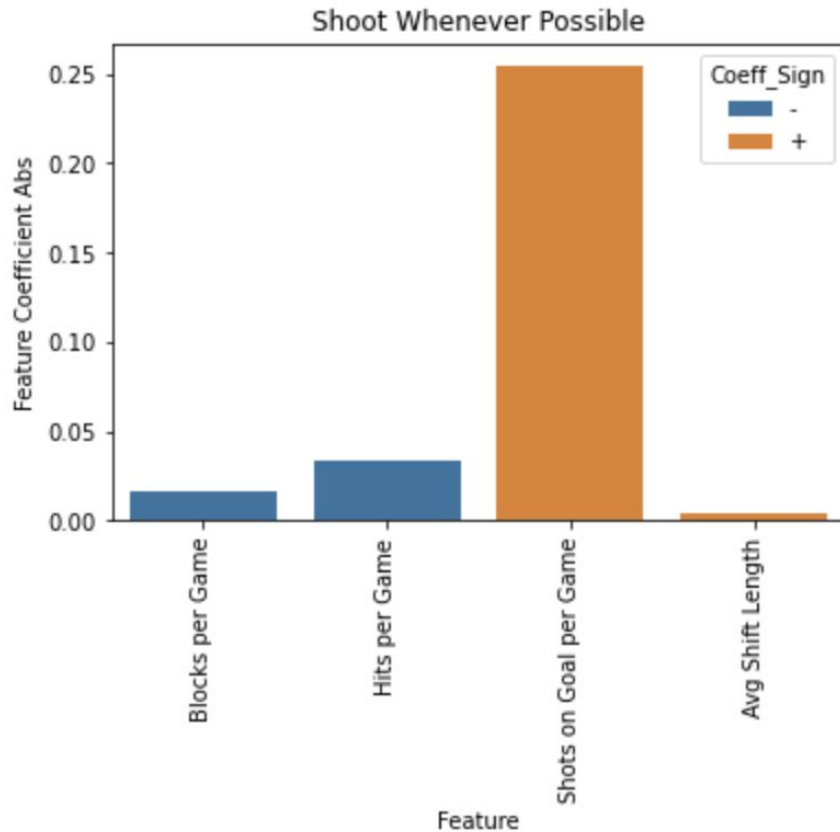Position

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Target:
Points per game

RESULTS: WHAT MATTERS MOST?

How does a player generate more points?

Positive Impact
- Shots on Goal
- Avg Shift Length

Negative Impact
- Hits
- Blocks

Shoot Whenever Possible

STRATEGY RECOMMENDATION

Coaching Strategy:

Offense
- Don't look for the extra pass, <u>shoot whenever possible</u>

Defense
- Don't play too physical, <u>limit hits</u>

NEXT STEPS

- Predictive time-series model
- Expanding the range of stats & attributes (features)