

PROJECT

# POSITIONS IN TODAY'S NBA

ARE TRADITIONAL CLASSIFICATIONS STILL RELEVANT?

DATE

MARCH 21, 2015

STUDENT

JOE EDMONDS



# WHY BASKETBALL?

## “RICH DATA, POOR DATA”

(NATE SILVER, ESPN THE MAGAZINE'S MARCH 2 ANALYTICS ISSUE)

HERE ARE THREE REASONS SPORTS  
NERDS HAVE IT EASY:

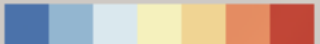
### 1. SPORTS HAS AWESOME DATA

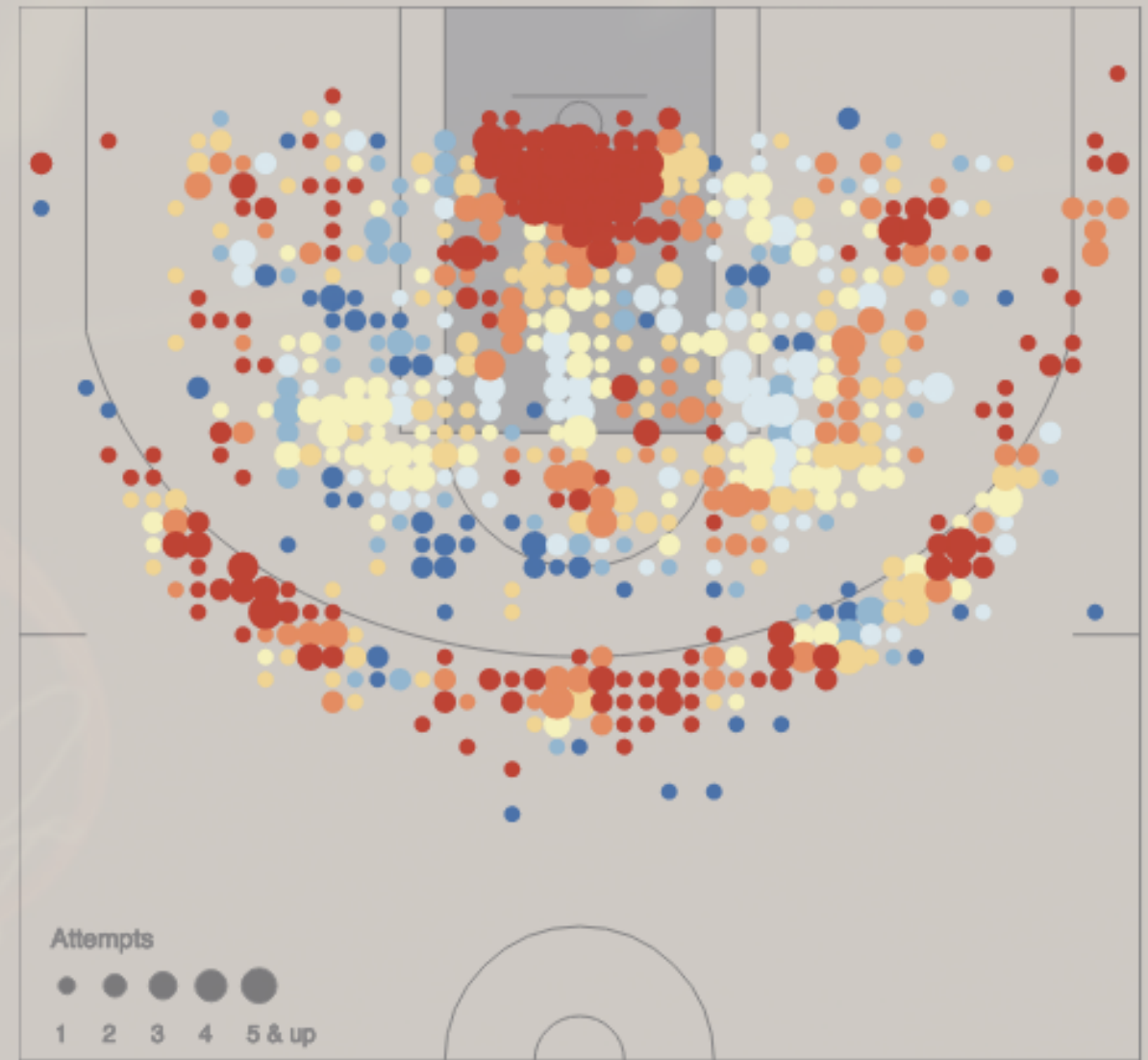
“...DATA THAT'S ACCURATE, PRECISE, AND  
SUBJECTED TO RIGOROUS QUALITY CONTROL.”

### 2. IN SPORTS, WE KNOW THE RULES

### 3. SPORTS OFFERS FAST FEEDBACK AND CLEAR MARKS OF SUCCESS

## Kevin Durant's Shot Record

It's Cold in Here  He's on Fire!





**““[R]EALLY, POSITIONS WERE  
JUST CREATED SO A NOVICE  
CAN FOLLOW THE GAME. YOUR  
SKILL SET IS YOUR POSITION.”**

**JALEN ROSE, RETIRED NBA PLAYER AND ESPN ANALYST  
(ROLLING STONE, 2 DECEMBER 2014)**



**DATA SOURCE:**  
**BASKETBALL-REFERENCE.COM**

Advanced

Glossary · SHARE · Embed · CSV · Export · PRE · LINK · ?

Season	Age	Tm	Lg	Pos	G	MP	PER	TS%	3PAr	FT%	ORB%	DRB%	TRB%	AST%	STL%	BLK%	TOV%	USG%	OWS	DWS	WS	WS/48	OBPM	DBPM	BPM	VORP
<a href="#">2003-04</a>	19	<a href="#">CLE</a>	<a href="#">NBA</a>	SG	79	3122	18.3	.488	.145	.308	3.5	11.8	7.6	27.8	2.2	1.3	13.9	28.2	2.4	2.6	5.1	.078	2.2	-0.2	1.9	3.1
<a href="#">2004-05</a> ★	20	<a href="#">CLE</a>	<a href="#">NBA</a>	SF	80	3388	25.7	.554	.183	.378	3.8	17.0	10.2	32.9	2.8	1.1	11.8	29.7	9.7	4.6	14.3	.203	6.9	1.5	8.3	8.8
<a href="#">2005-06</a> ★	21	<a href="#">CLE</a>	<a href="#">NBA</a>	SF	79	3361	28.1	.568	.208	.447	2.6	17.1	9.8	32.8	2.0	1.5	10.7	33.6	12.0	4.3	16.3	.232	7.9	1.4	9.3	9.5
<a href="#">2006-07</a> ★	22	<a href="#">CLE</a>	<a href="#">NBA</a>	SF	78	3190	24.5	.552	.191	.432	3.0	16.6	9.6	29.1	2.1	1.3	11.5	31.0	8.0	5.7	13.7	.206	5.4	2.0	7.4	7.6
<a href="#">2007-08</a> ★	23	<a href="#">CLE</a>	<a href="#">NBA</a>	SF	75	3027	29.1	.568	.219	.470	4.9	17.8	11.1	37.3	2.4	2.1	11.4	33.5	10.7	4.6	15.2	.242	9.0	2.3	11.2	10.1
<a href="#">2008-09</a> ★	24	<a href="#">CLE</a>	<a href="#">NBA</a>	SF	81	3054	31.7	.591	.238	.472	4.3	19.0	11.9	38.0	2.4	2.4	11.0	33.8	13.7	6.5	20.3	.318	9.4	3.6	13.0	11.6
<a href="#">2009-10</a> ★	25	<a href="#">CLE</a>	<a href="#">NBA</a>	SF	76	2966	31.1	.604	.253	.506	3.0	18.5	11.1	41.8	2.2	2.0	12.3	33.5	13.3	5.2	18.5	.299	9.7	2.8	12.5	10.9
<a href="#">2010-11</a> ★	26	<a href="#">MIA</a>	<a href="#">NBA</a>	SF	79	3063	27.3	.594	.188	.446	3.3	18.7	11.4	34.9	2.1	1.3	13.8	31.5	10.3	5.3	15.6	.244	6.5	2.1	8.6	8.2
<a href="#">2011-12</a> ★	27	<a href="#">MIA</a>	<a href="#">NBA</a>	SF	62	2326	30.7	.605	.127	.429	5.0	19.7	12.6	33.6	2.6	1.7	13.3	32.0	10.0	4.5	14.5	.298	8.3	2.7	11.0	7.6
<a href="#">2012-13</a> ★	28	<a href="#">MIA</a>	<a href="#">NBA</a>	PF	76	2877	31.6	.640	.188	.395	4.4	20.8	13.1	36.4	2.4	1.9	12.4	30.2	14.6	4.7	19.3	.322	9.2	2.4	11.6	9.8
<a href="#">2013-14</a> ★	29	<a href="#">MIA</a>	<a href="#">NBA</a>	PF	77	2902	29.3	.649	.226	.432	3.6	18.9	11.5	32.0	2.2	0.8	14.4	31.0	12.3	3.7	15.9	.264	8.0	0.9	8.9	8.0
<a href="#">2014-15</a> ★	30	<a href="#">CLE</a>	<a href="#">NBA</a>	SF	59	2137	26.1	.581	.268	.427	2.1	15.6	9.0	38.5	2.2	1.5	15.6	32.8	6.5	2.2	8.7	.196	6.3	0.7	7.1	4.9
Career			NBA		901	35413	27.7	.581	.203	.429	3.6	17.6	10.7	34.4	2.3	1.6	12.5	31.7	123.5	53.7	177.3	.240	7.4	1.8	9.2	100.0
8 seasons		<a href="#">CLE</a>	NBA		607	24245	26.8	.564	.211	.431	3.4	16.7	10.1	34.5	2.3	1.7	12.1	32.0	76.4	35.6	112.0	.222	7.1	1.8	8.9	66.5
4 seasons		<a href="#">MIA</a>	NBA		294	11168	29.6	.622	.184	.426	4.0	19.5	12.1	34.2	2.3	1.4	13.5	31.1	47.2	18.1	65.3	.281	7.9	2.0	9.9	33.5

**CHOSEN FOR:**

- THOROUGHNESS OF DATA & STATISTICS
- EASE OF USE (EXPORT TABLES AS CSV)



# WHAT ARE THE...

## FEATURES?

## RESPONSES?

TRUE SHOOTING PERCENTAGE

3-PT. ATTEMPT RATE

FREE THROW RATE

OFF. REBOUNDING PERCENTAGE

DEF. REBOUNDING PERCENTAGE

ASSIST PERCENTAGE

STEAL PERCENTAGE

BLOCK PERCENTAGE

TURNOVER PERCENTAGE

USAGE RATE

1. POINT GUARD

2. SHOOTING GUARD

3. SMALL FORWARD

4. POWER FORWARD

5. CENTER



# TRAINING DATASET

TOP 200 IN MINUTES PLAYED DURING 2006-07 SEASON

LONG ENOUGH AGO FOR SOME PLAYER TURNOVER, BUT RECENT  
ENOUGH FOR CONSISTENCY IN STYLE OF PLAY

(BREAKDOWN: 38 PGs, 44 SGs, 41 SFs, 40 PFs, 37 Cs)

# TEST DATASET

TOP 200(+?) IN MINUTES PLAYED DURING 2014-15 SEASON



# QUESTIONS TO ANSWER

**ARE FIVE POSITIONS ENOUGH? OR MERELY CONVENTION?**

**WHAT PERCENTAGE OF PLAYERS ARE A 'PURE' VERSION OF THEIR POSITION?**

**AT WHAT POSITIONS ARE PLAYERS' SKILL SETS MOST LIKELY TO OVERLAP WITH THOSE OF OTHER POSITIONS?**

**ARE COMMONLY USED 'TWEENER' POSITIONS (STRETCH FOUR, POINT FORWARD, ETC.) SUPPORTED OR APPARENT IN THE DATA?**

**CORRELATION BETWEEN "PURENESS OF POSITION" AND PLAYER EFFICIENCY RATING (PER)?**

**LIMITATION: MODEL WILL BE UNABLE TO FULLY INCORPORATE IMPACT OF DEFENSE / DEFENSIVE ROLE ON POSITION (STEALS/BLOCKS NOT SUFFICIENT)**



# FURTHER EXPLORATION

## COMPARISON OF EACH TEAM'S BEST FIVE-MAN UNIT?

- WOULD REQUIRE ADDITIONAL DATA ACQUISITION
- HOW DO THE (EXPECTED) "POSITION BREAKDOWNS" OF THE MOST SUCCESSFUL UNITS COMPARE?
- HOW DO THE BEST UNITS FROM EACH TEAM COMPARE TO THEIR STARTING UNITS, WHICH ARE MORE LIKELY TO FOLLOW TRADITIONAL POSITIONS IN THEIR COMPOSITION?