

Fantasy Football Weekly Report

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November 11, 2014

Introduction

Hello! This is a completely automated Fantasy Football report produced by Clay McLeod. I'm using this as sort of an experiment to package together all of my fantasy football data analysis into one, easy to understand package. As I'm sure you can imagine, this system is pretty cutting edge so it's unlikely I will get everything formatted and explained correctly the first time. Continue to think of this report as being in it's experimental stage. I'm releasing it to get feedback from the community.

Updates

- Greatly improved DPS algorithm due to popular demand
- Added Rushing and Receiving Statistics category
- Please let me know how I can improve this system using my contact details below. This includes what metrics you would like to see!
- I really need help with spelling corrections! I'm kind of depending on crowdsourcing this as most of my time on the project is going into developing the system. Please let me know if you come across any spelling errors

Contact Information

- Reddit: <http://reddit.com/u/clmcl>
- Website: <http://claymcLeod.github.io/blog/>

Tiered Visualizations

Motivation

Visualization of data is obviously very important. But often, as in the case of fantasy football, it can be crucial to making sense of data that normally very difficult to interpret. This post was inspired by the Fantasy Football Tier Visualiations performed by Boris Chen at the New York Times.

Visualizations

Many of you are familiar with the NYT visualizations referenced above. However, I don't believe the NYT's visualizations are capturing the full potential of this method. Therefore, I am developing my own methods of visualizing the data and posting them.

Differences

There are two main differences between these visualizations and the New York Times visualizations. First, my visualizations use the most current rankings whereas the New York Times visualizations appear to use data from August 21 (about a month ago). Second, my algorithm finds the most optimal number of tiers, while the New York Times visualizations force the algorithm to find 8 tiers. Hopefully you find these insightful.

Drive/Developer Projects/Python/pyffl/data/generated/tiered/qb.png

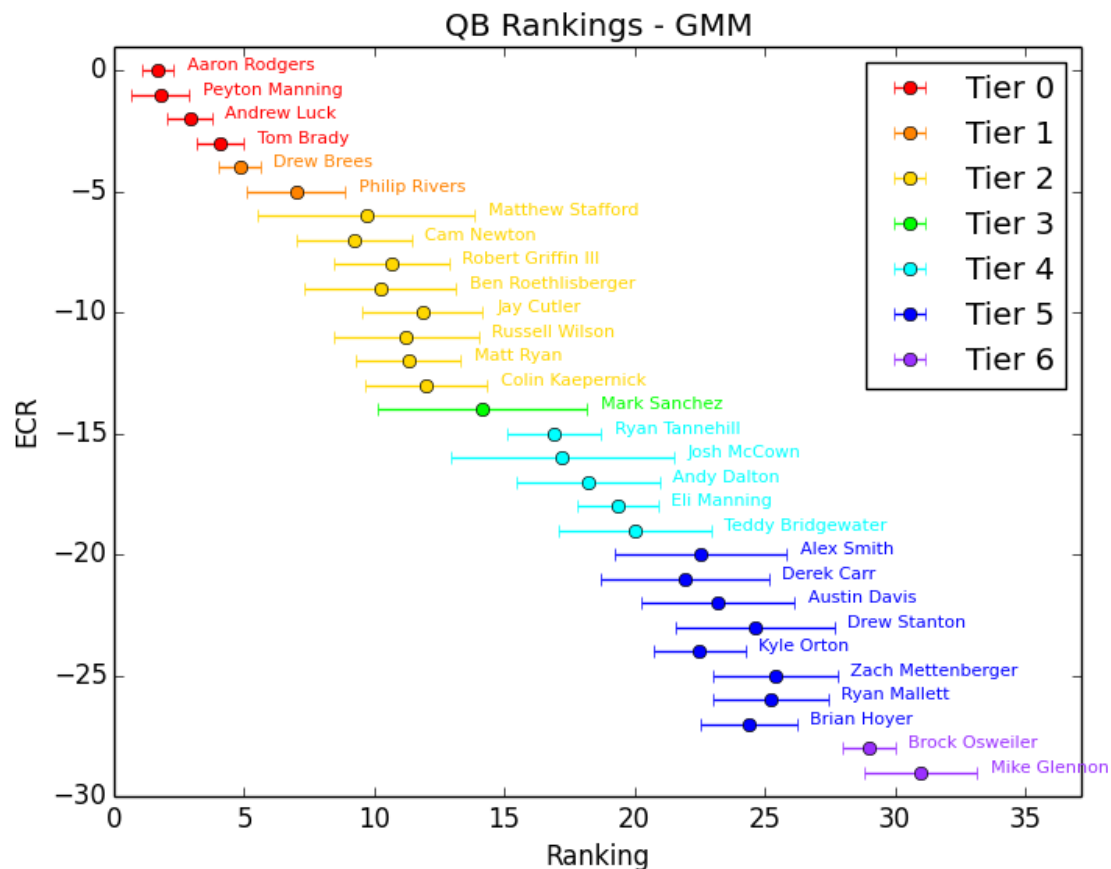


Figure 1: QB Tiered Rankings

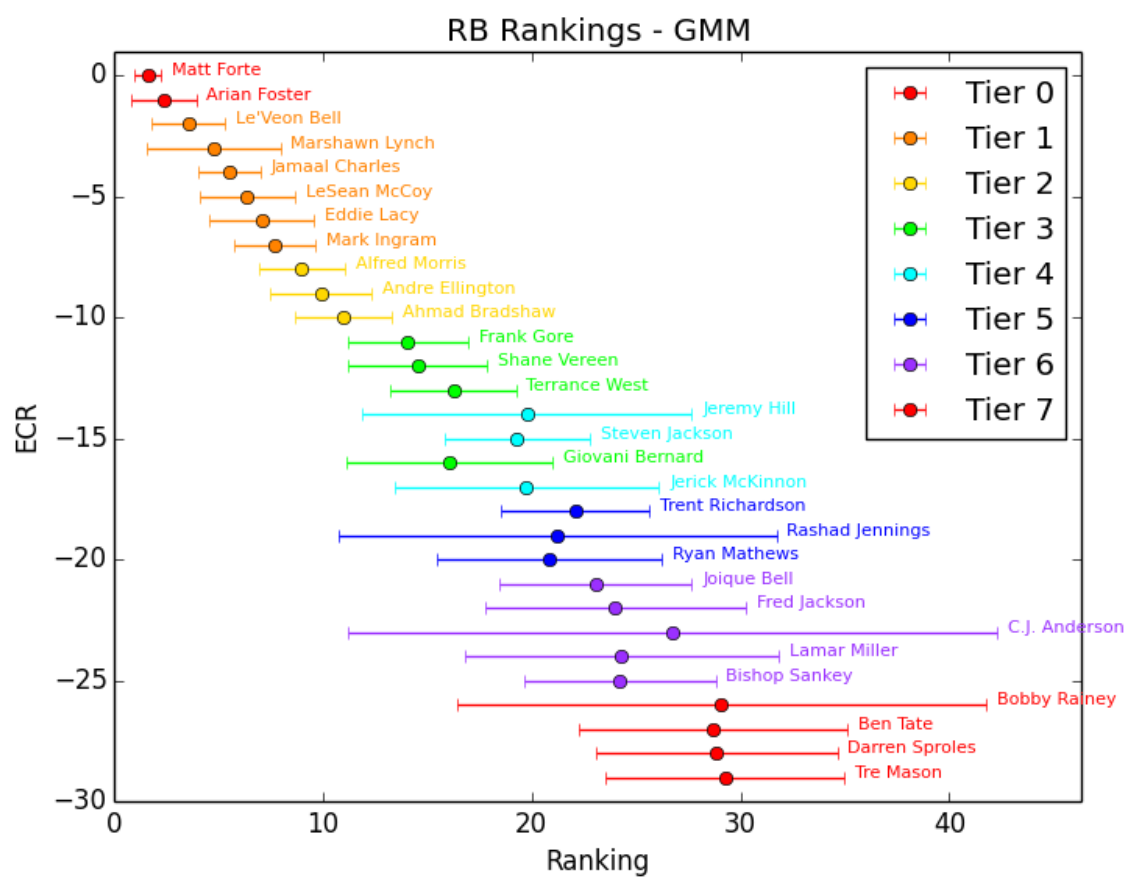


Figure 2: RB Tiered Rankings

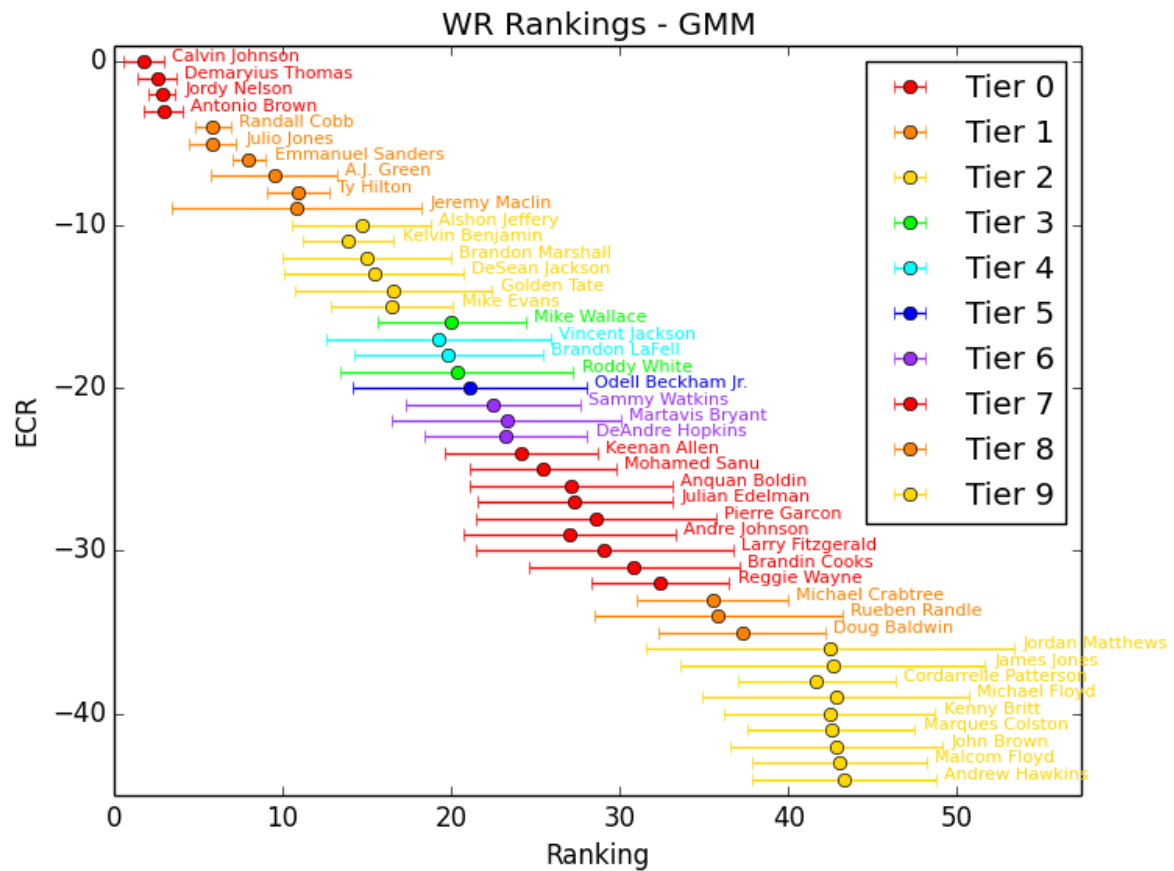


Figure 3: WR Tiered Rankings

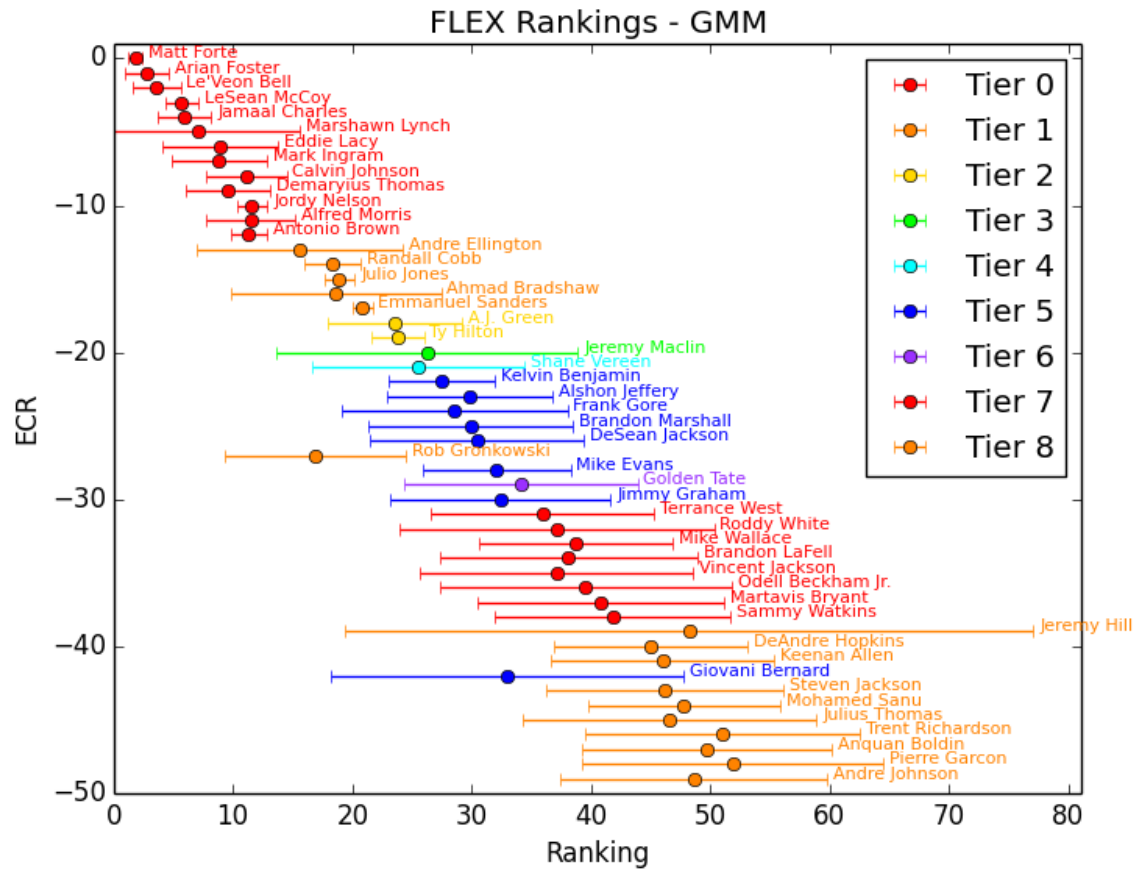


Figure 4: FLEX Tiered Rankings

Drive/Developer Projects/Python/pyffl/data/generated/tiered/te.png

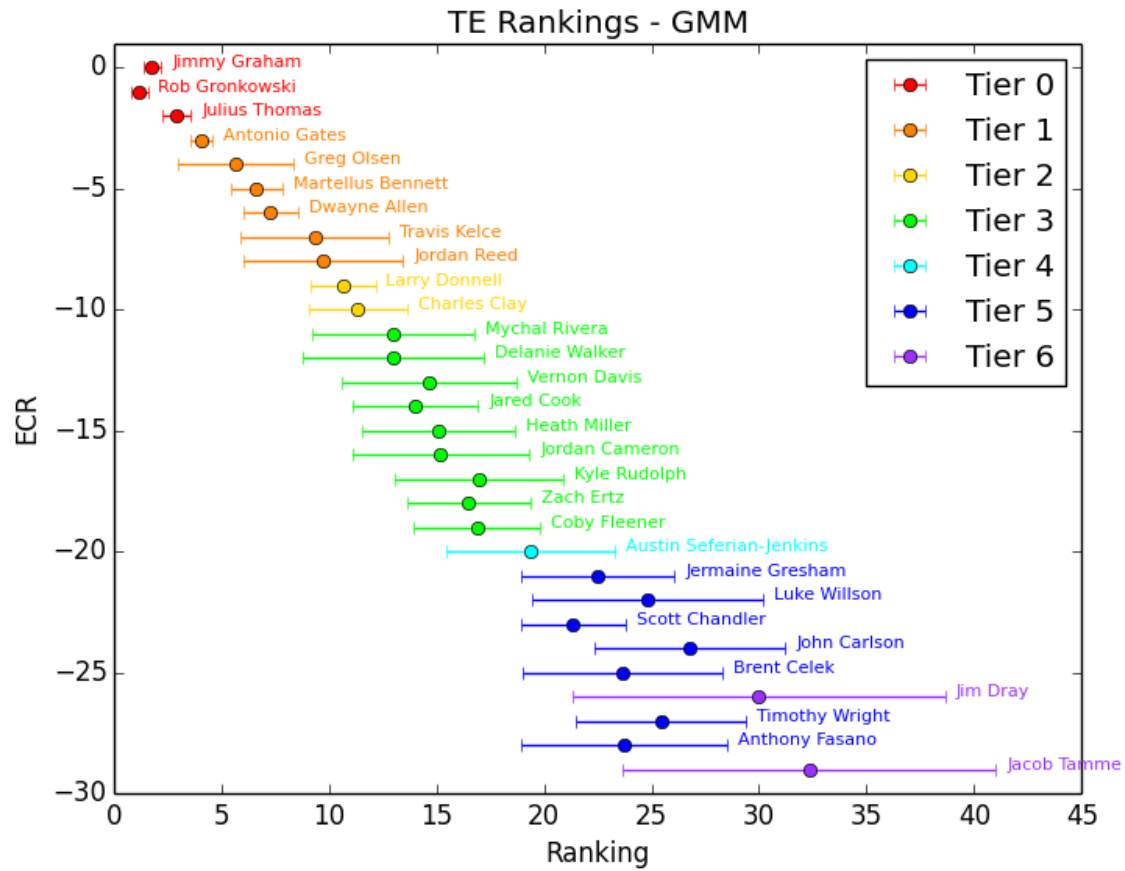


Figure 5: TE Tiered Rankings

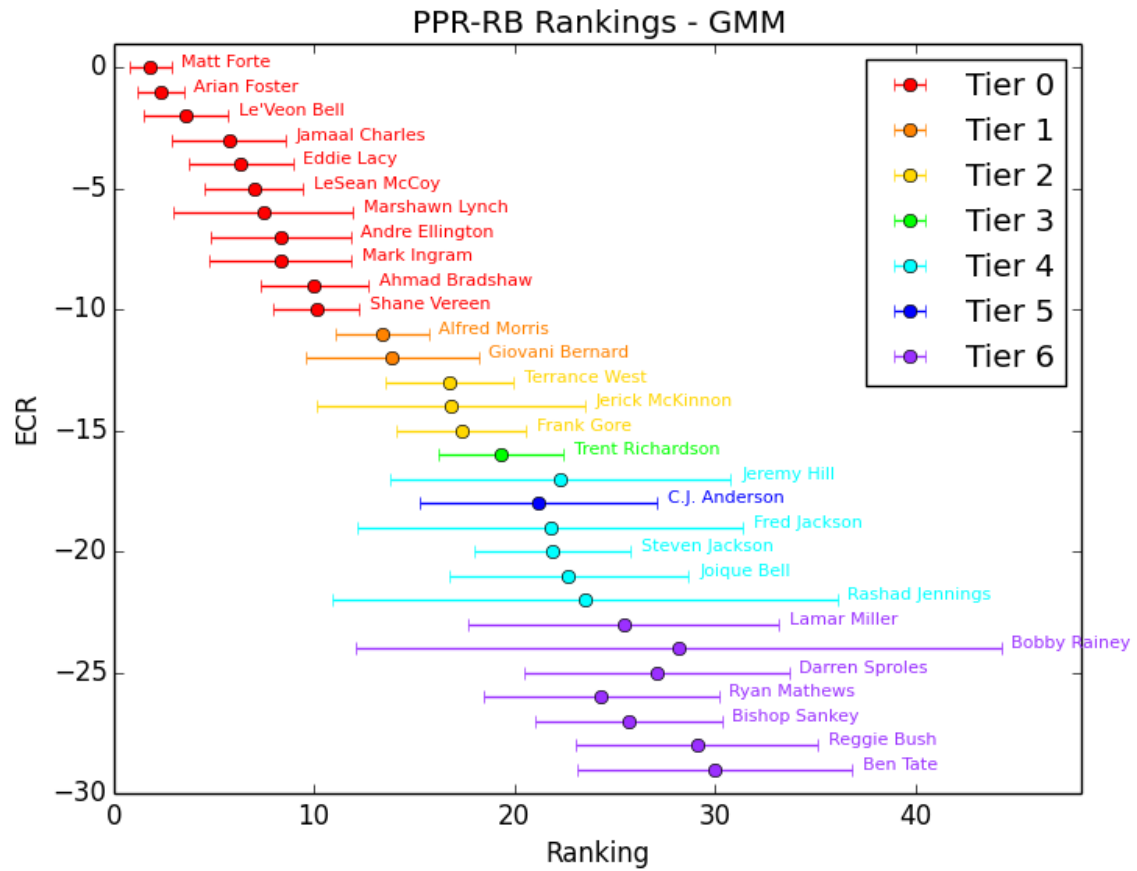


Figure 6: PPR-RB Tiered Rankings

Drive/Developer Projects/Python/pyffl/data/generated/tiered/ppr-wr.png

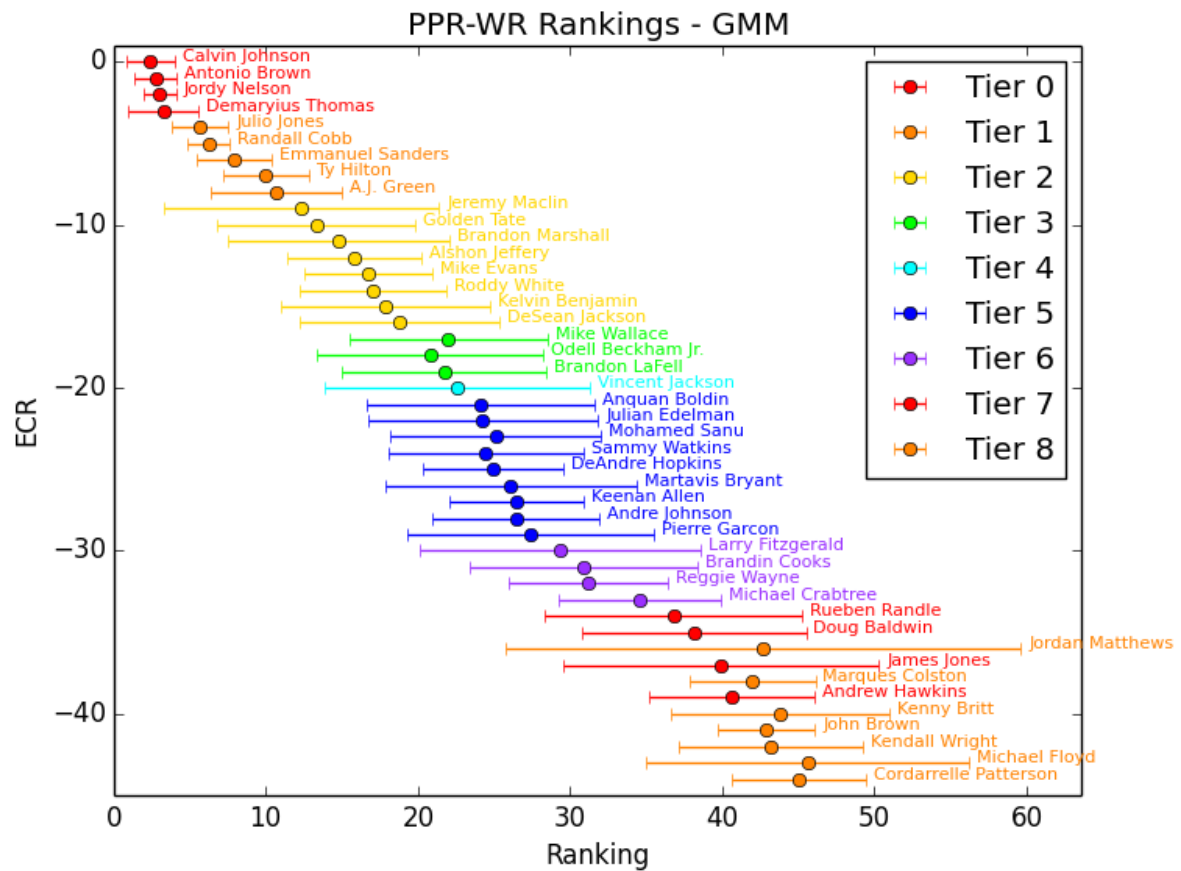


Figure 7: PPR-WR Tiered Rankings

Drive/Developer Projects/Python/pyffl/data/generated/tiered/ppr-flex.png

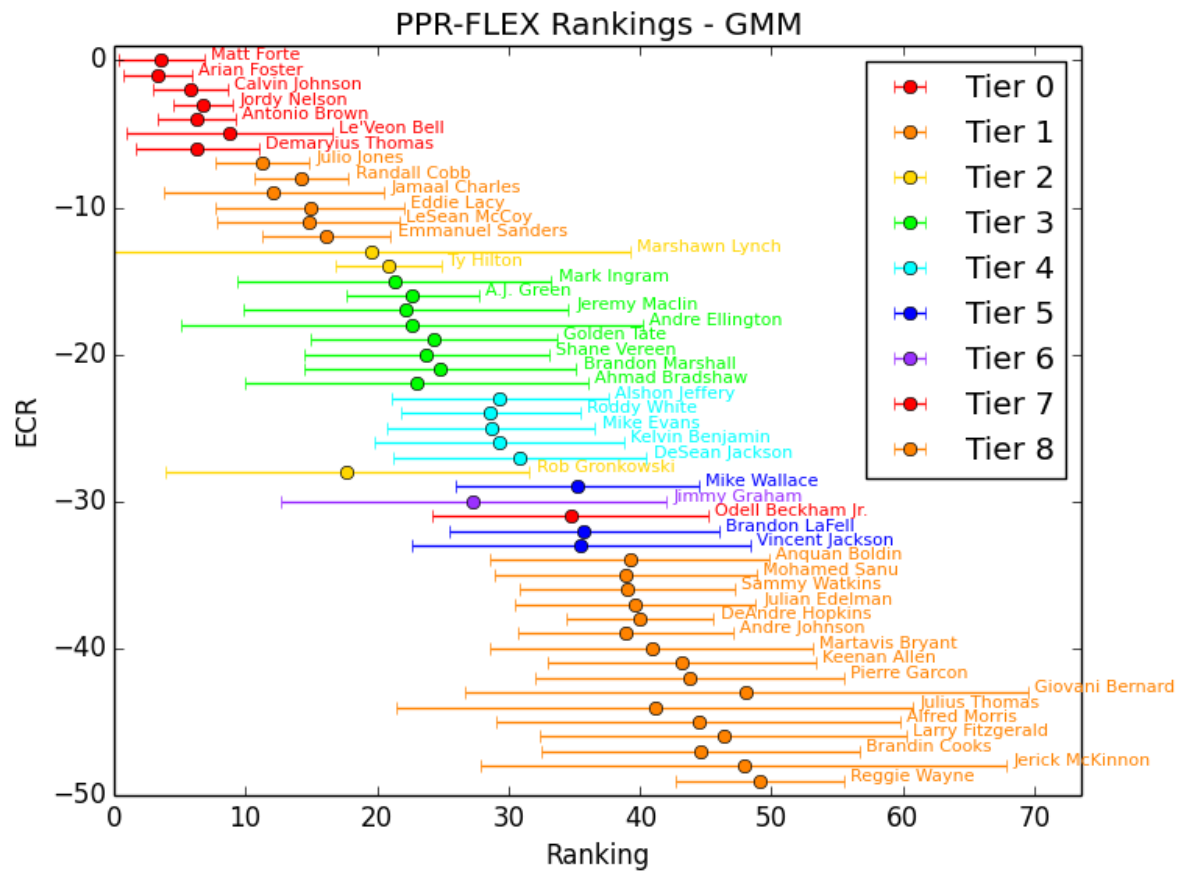


Figure 8: PPR-FLEX Tiered Rankings

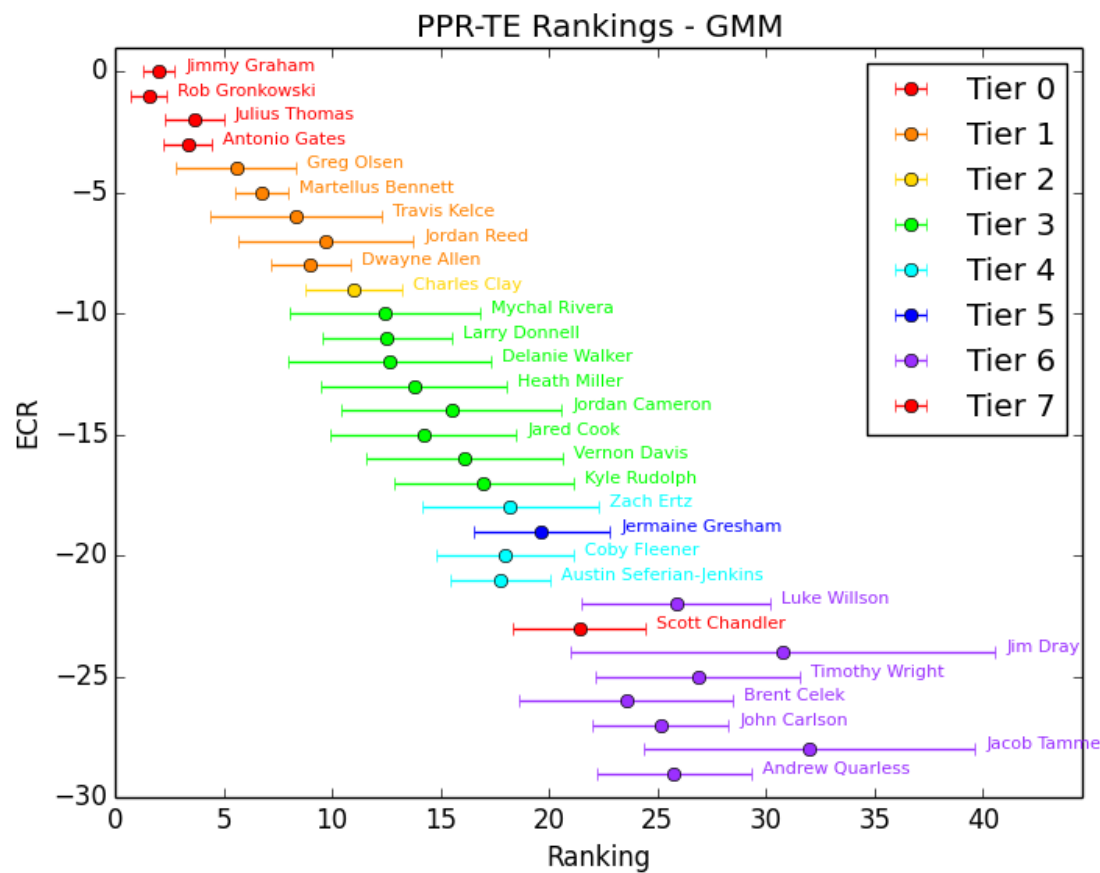


Figure 9: PPR-TE Tiered Rankings

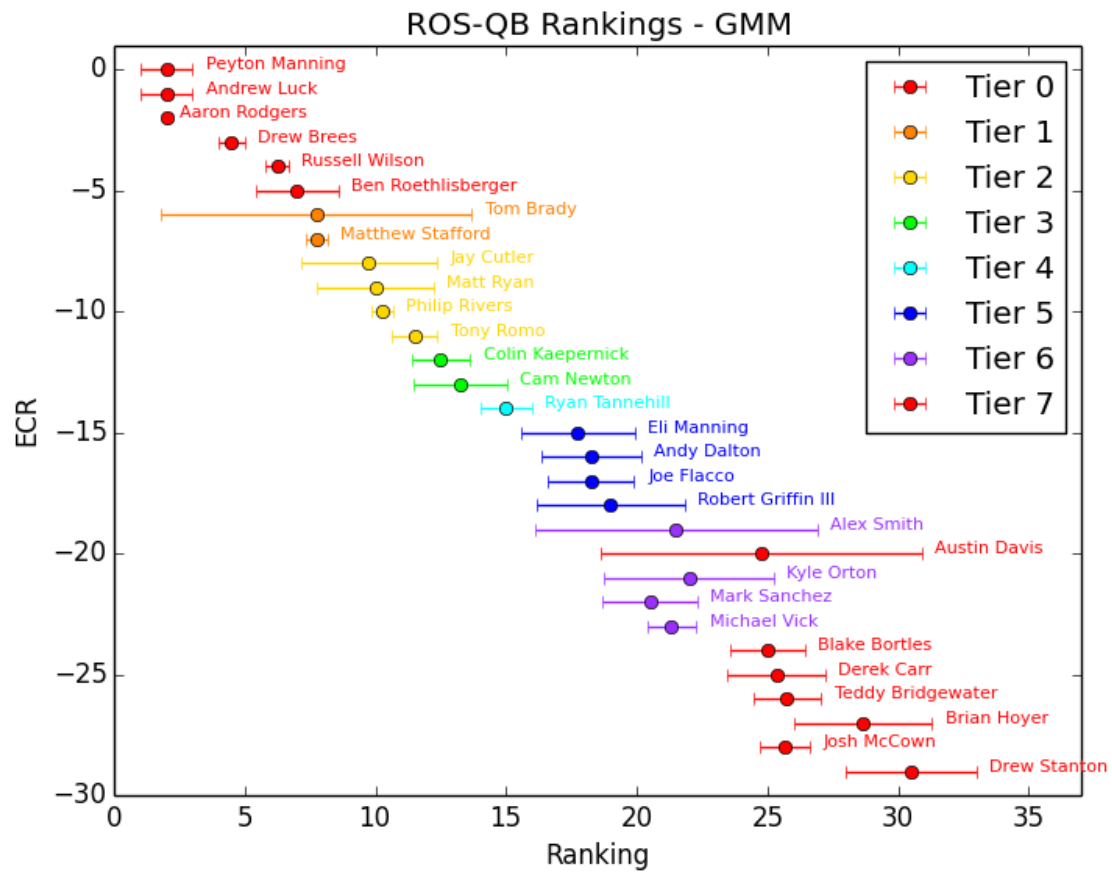


Figure 10: ROS-QB Tiered Rankings

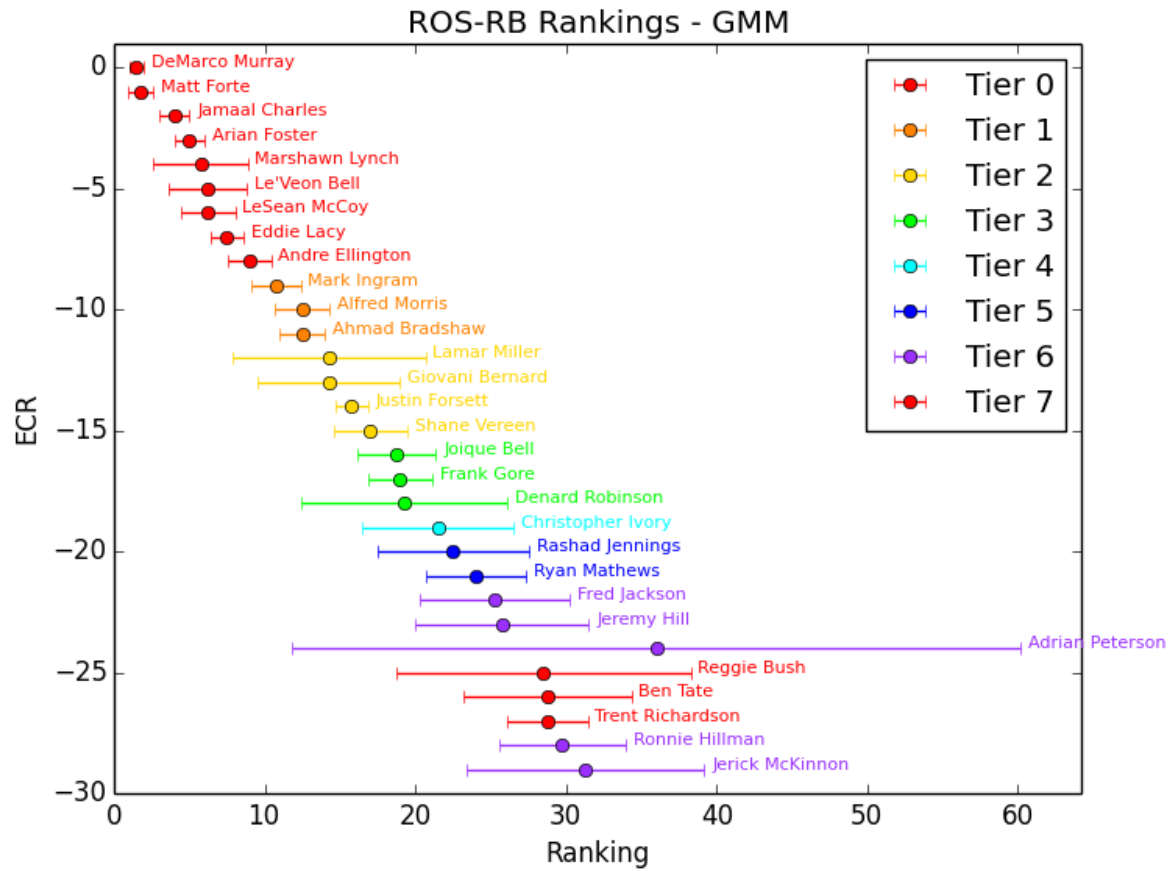


Figure 11: ROS-RB Tiered Rankings

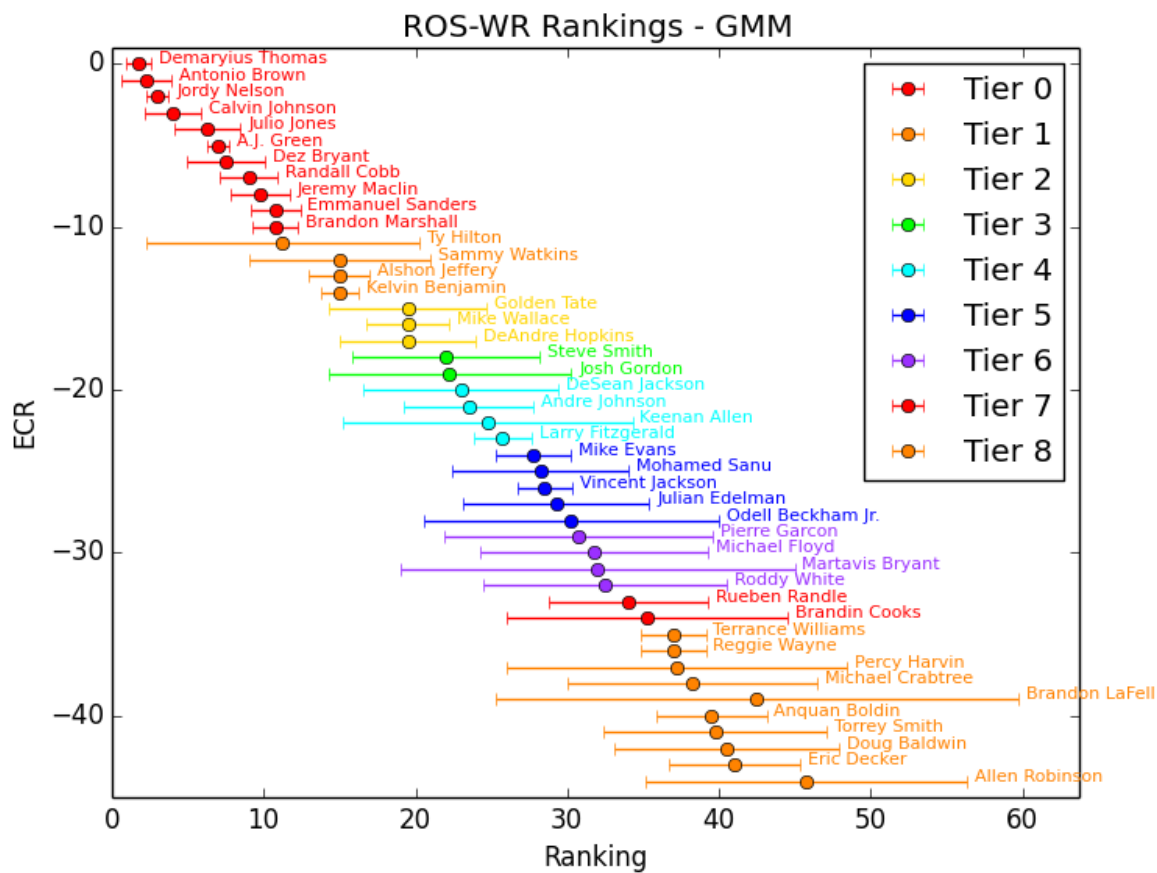


Figure 12: ROS-WR Tiered Rankings

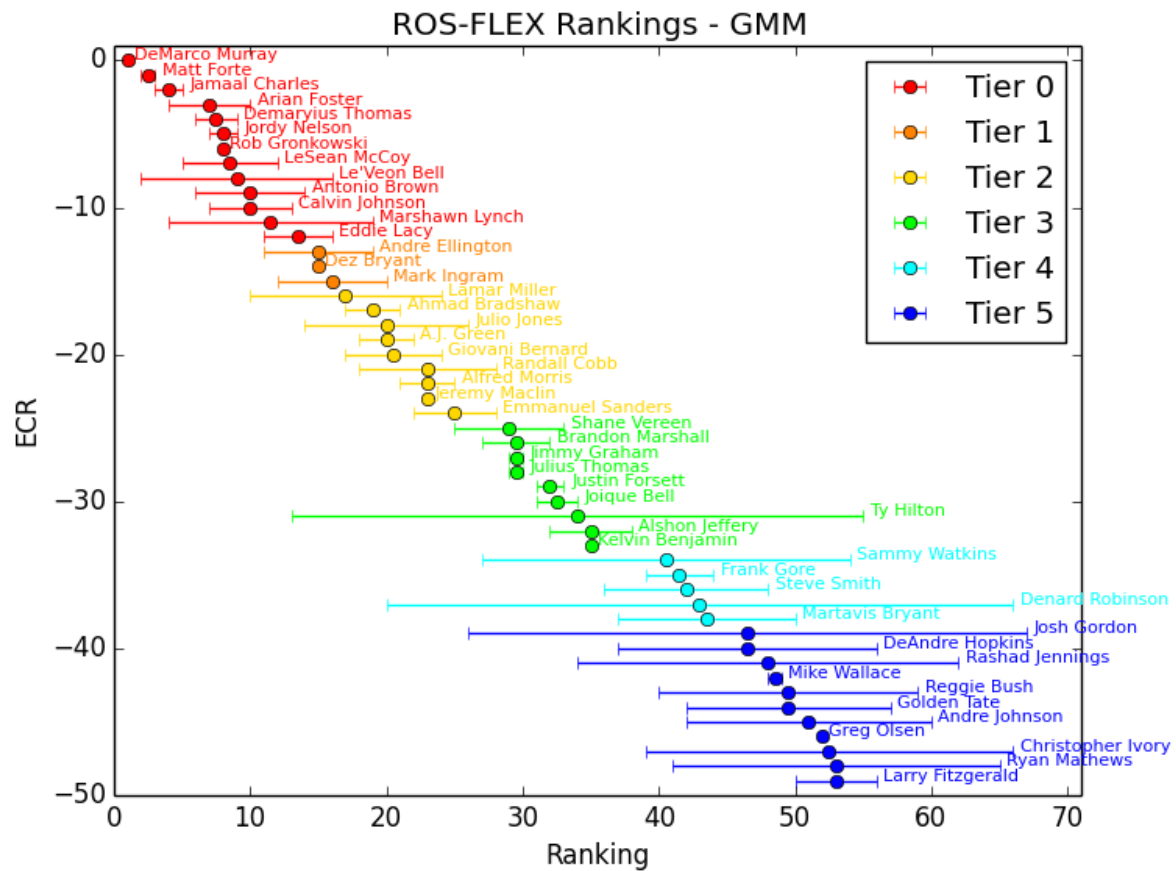


Figure 13: ROS-FLEX Tiered Rankings

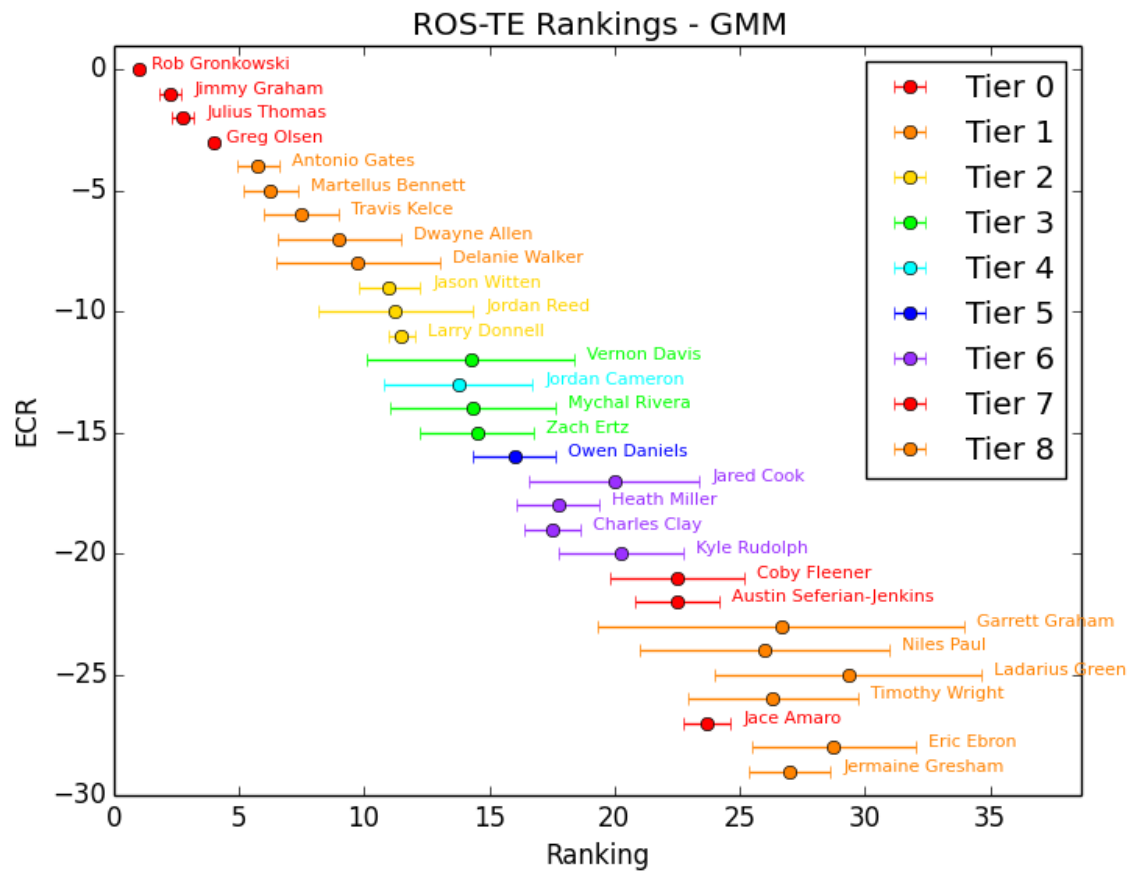


Figure 14: ROS-TE Tiered Rankings

Rushing Statistics

Motivation

Understanding a team's rushing habits can help us get discover vital trends to picking RBs.

TODO: Finish Motivation

Teams sorted by % of their rushing offensive plays

Team	Percentage
1. HOU	51.0791%
2. DAL	50.9761%
3. CLE	49.3671%
4. KC	47.9381%
5. SEA	47.2222%
6. NYG	46.5066%
7. SF	45.5531%
8. BAL	44.7598%
9. CIN	44.4142%
10. SD	43.6759%
11. NYJ	43.5622%
12. GB	42.6829%
13. MIN	42.5676%
14. TEN	42.3267%
15. MIA	42.2886%
16. ARI	42.1053%
17. DEN	42.0000%
18. NE	41.9565%
19. PIT	41.2393%
20. IND	41.0781%
21. PHI	40.4878%
22. DET	40.1302%
23. STL	39.7436%
24. CAR	39.1685%
25. BUF	38.8889%
26. WAS	38.6364%
27. CHI	36.5688%
28. NO	35.7995%
29. TB	35.5301%
30. JAC	35.2535%
31. ATL	33.8530%
32. OAK	33.6364%

Receiving Statistics

Motivation

Understanding a team's receiving habits can help us get discover vital trends to picking WRs.

TODO: Finish Motivation

Teams sorted by % of their passing offensive plays

Team	Percentage
1. OAK	64.8485%
2. ATL	62.8062%
3. NO	62.7685%
4. TB	60.4585%
5. CHI	59.5937%
6. WAS	58.1818%
7. JAC	58.0645%
8. PHI	57.8049%
9. CAR	57.5492%
10. BUF	56.8889%
11. IND	56.8773%
12. DEN	56.2222%
13. STL	56.1538%
14. NE	55.0000%
15. ARI	55.0000%
16. DET	54.6638%
17. PIT	54.4872%
18. MIA	54.2289%
19. CIN	53.9510%
20. SD	53.7549%
21. BAL	53.4934%
22. TEN	53.2178%
23. GB	53.1707%
24. NYJ	52.5751%
25. MIN	51.3514%
26. SF	50.3254%
27. NYG	50.2183%
28. SEA	48.8889%
29. CLE	48.3544%
30. KC	47.9381%
31. DAL	46.4208%
32. HOU	46.2830%

Top 15 people who catch a pass on any given pass by their team (%)

Player	Percentage
1. Jordy Nelson	21.5596%
2. Dez Bryant	21.0280%
3. Andre Johnson	20.2073%
4. Matt Forte	19.6970%
5. Antonio Brown	19.6078%
6. Golden Tate	19.0476%
7. Demaryius Thomas	18.5771%
8. Emmanuel Sanders	18.5771%
9. Julian Edelman	17.3913%
10. Julio Jones	17.3759%
11. Anquan Boldin	16.8103%
12. DeAndre Hopkins	16.0622%
13. Randall Cobb	16.0550%
14. Keenan Allen	15.8088%
15. Greg Olsen	15.5894%

Top 15 people who will catch a pass on any given offensive play by their team (%)

Player	Percentage
1. Matt Forte	11.7381%
2. Jordy Nelson	11.4634%
3. Julio Jones	10.9131%
4. Antonio Brown	10.6838%
5. Demaryius Thomas	10.4444%
6. Emmanuel Sanders	10.4444%
7. Golden Tate	10.4121%
8. Dez Bryant	9.7614%
9. Julian Edelman	9.5652%
10. Andre Johnson	9.3525%
11. Martellus Bennett	9.2551%
12. James Jones	9.0909%
13. Greg Olsen	8.9716%
14. T.Y. Hilton	8.7361%
15. Randall Cobb	8.5366%

Top 15 people who will score a receiving touchdown on any given pass by their team (%)

Player	Percentage
1. Randall Cobb	3.6697%
2. Julius Thomas	3.5573%
3. Antonio Gates	3.3088%
4. Terrance Williams	2.8037%
5. Jordy Nelson	2.7523%
6. Demaryius Thomas	2.3715%
7. Mike Wallace	2.2936%
8. Ahmad Bradshaw	1.9608%
9. Antonio Brown	1.9608%
10. Greg Olsen	1.9011%
11. Kelvin Benjamin	1.9011%
12. Brandon Marshall	1.8939%
13. Dez Bryant	1.8692%
14. Kendall Wright	1.8605%
15. Eddie Royal	1.8382%

Top 15 people who will score a receiving touchdown on any given offensive play by their team (%)

Player	Percentage
1. Julius Thomas	2.0000%
2. Randall Cobb	1.9512%
3. Antonio Gates	1.7787%
4. Jordy Nelson	1.4634%
5. Demaryius Thomas	1.3333%
6. Terrance Williams	1.3015%
7. Mike Wallace	1.2438%
8. Brandon Marshall	1.1287%
9. Ahmad Bradshaw	1.1152%
10. Greg Olsen	1.0941%
11. Kelvin Benjamin	1.0941%
12. Antonio Brown	1.0684%
13. Kendall Wright	0.9901%
14. Eddie Royal	0.9881%
15. Jeremy Maclin	0.9756%

RB Visualizations

Motivation

Visualization of data is obviously very important. But often, as in the case of fantasy football, it can be crucial to making sense of data that normally very difficult to interpret. This post was inspired by the Fantasy Football Tier Visualiations performed by Boris Chen at the New York Times.

Note: Sorry if some of these are hard to read. I did my best to make them visible.

Name	Fantasy Points (Rushing)	Fantasy Points (Receiving)	Fumbles	Fantasy Points (Total)
Matt Forte	79.6	69.7	1	147.3
Arian Foster	124.2	40.9	2	161.1
Le'Veon Bell	80.7	58.6	0	139.3
Marshawn Lynch	122.9	42.6	1	163.5
Jamaal Charles	89.3	24.9	2	110.2
LeSean McCoy	76.2	9.2	2	81.4
Eddie Lacy	71.8	33.7	2	101.5
Mark Ingram	91.1	6.7	0	97.8
Alfred Morris	96.5	6.8	2	99.3
Andre Ellington	76.2	45.2	2	117.4
Ahmad Bradshaw	54.1	65.3	2	115.4
Frank Gore	67.3	13.9	0	81.2
Shane Vereen	37.0	42.6	0	79.6
Terrance West	57.6	9.9	0	67.5
Jeremy Hill	70.4	14.6	1	83.0
Steven Jackson	66.6	7.4	0	74.0
Giovani Bernard	74.6	17.9	0	92.5
Jerick McKinnon	44.6	10.6	0	55.2
Trent Richardson	51.1	18.2	2	65.3
Rashad Jennings	51.6	10.9	1	60.5
Ryan Mathews	13.1	4.6	1	15.7
Joique Bell	53.7	17.4	2	67.1
Fred Jackson	30.9	36.0	2	62.9
C.J. Anderson	17.2	16.7	0	33.9
Lamar Miller	82.8	20.0	3	96.8
Bishop Sankey	42.0	8.3	0	50.3
Bobby Rainey	44.8	31.6	3	70.4
Ben Tate	58.2	6.0	0	64.2
Darren Sproles	40.8	24.4	1	63.2
Tre Mason	33.0	3.8	1	34.8
Jonathan Stewart	32.3	8.5	0	40.8
Darren McFadden	49.2	18.3	1	65.5
Charles Sims	2.3	1.7	1	2.0
Reggie Bush	25.1	16.9	0	42.0
DeAngelo Williams	12.6	3.0	0	15.6
Montee Ball	23.2	6.2	1	27.4
Andre Williams	57.5	5.4	1	60.9
Matt Asiata	63.7	25.9	1	87.6
Branden Oliver	49.1	22.9	0	72.0
Bryce Brown	5.0	6.5	1	9.5
Jonas Gray	13.1	0.0	0	13.1
Isaiah Crowell	59.7	1.6	2	57.3
Benny Cunningham	36.5	24.3	0	60.8
Anthony Dixon	24.3	1.5	0	25.8
Damien Williams	10.0	6.2	0	16.2
Peyton Hillis	11.5	8.7	0	20.2
Travaris Cadet	2.7	28.1	1	28.8
Carlos Hyde	39.4	1.7	0	41.1
Juwan Thompson	30.1	0.6	1	28.7
Pierre Thomas	25.3	26.4	0	51.7

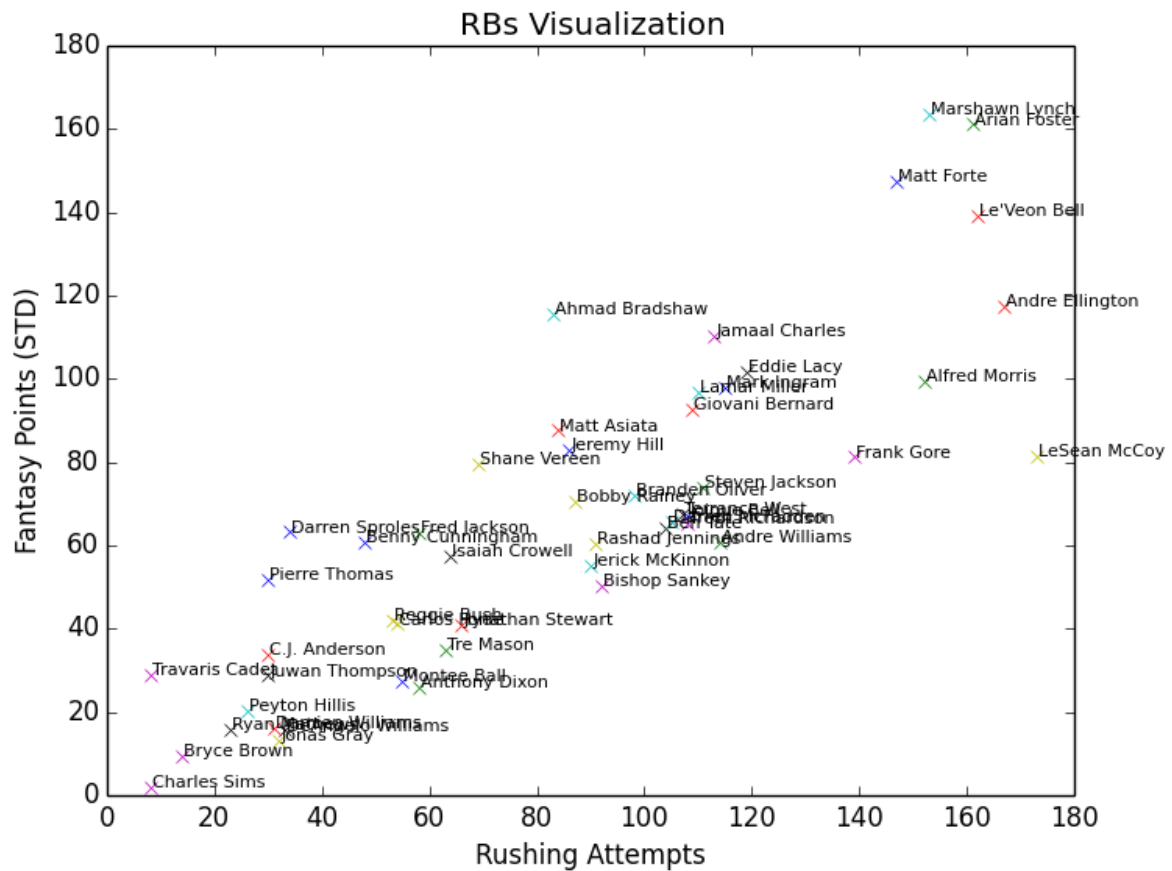


Figure 15: RB Visualization 1

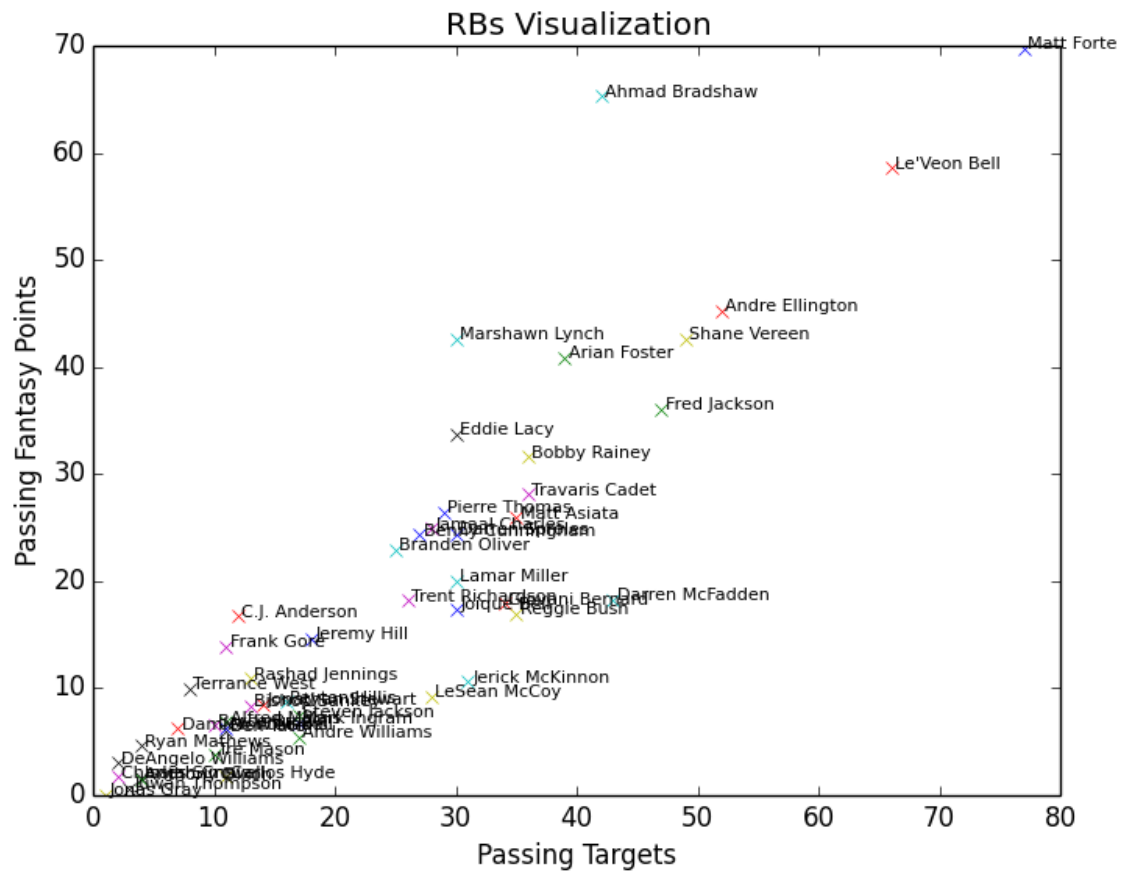


Figure 16: RB Visualization 2

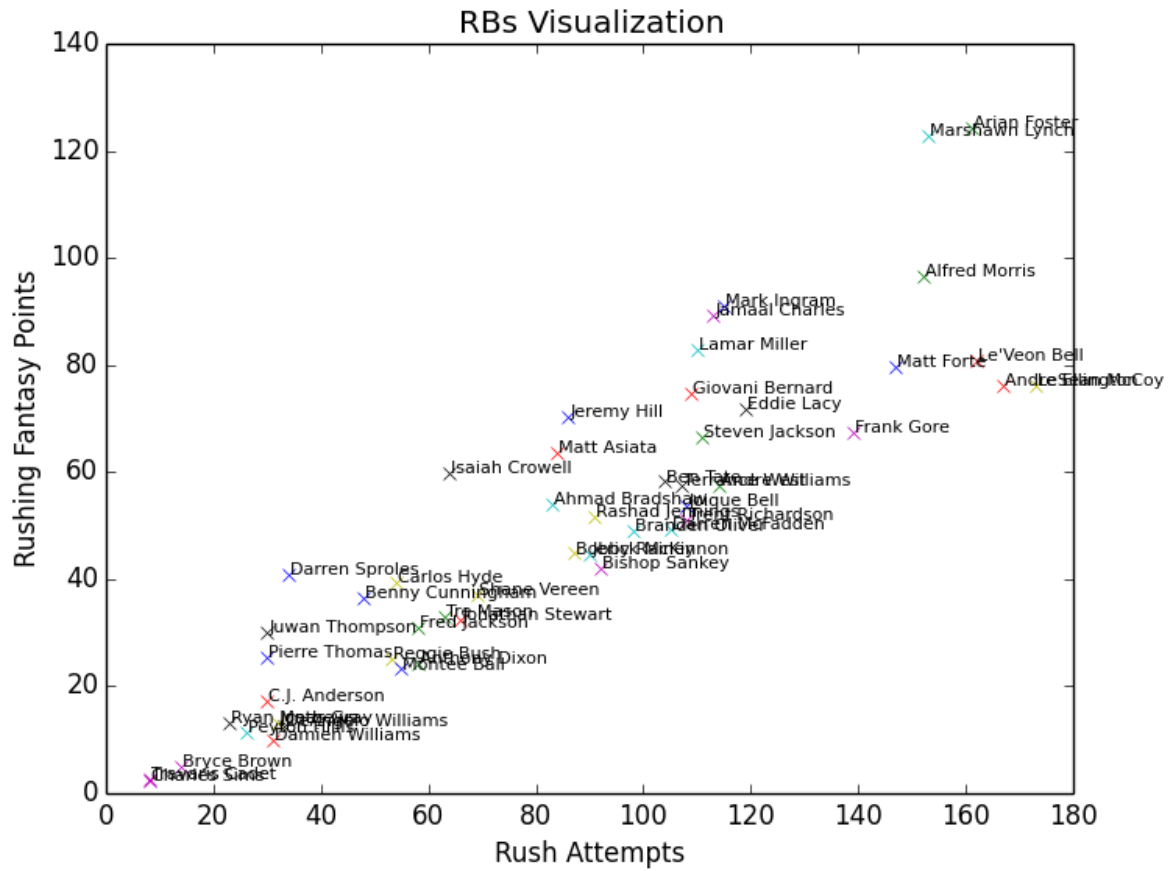


Figure 17: RB Visualization 3

Drive/Developer Projects/Python/pyffl/data/generated/rb/4.png

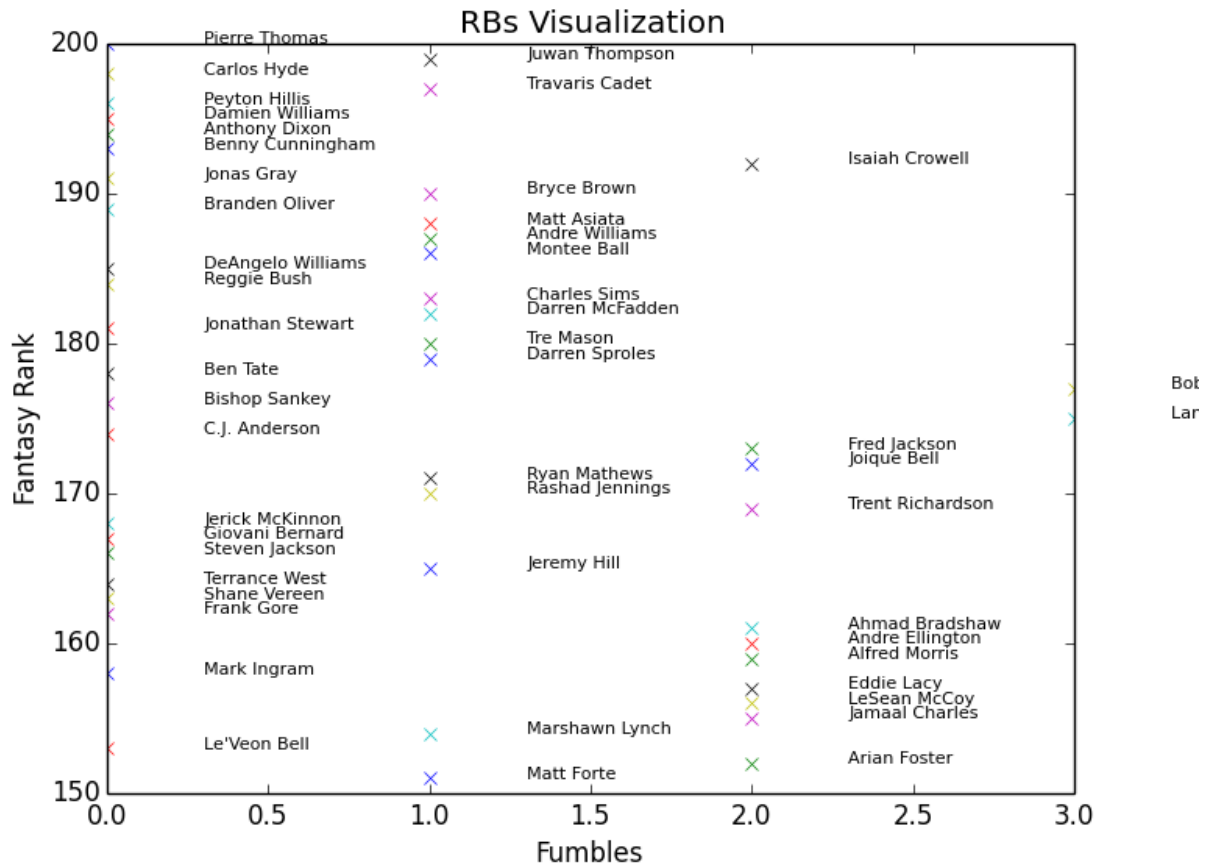


Figure 18: RB Visualization 4

WR Visualizations

Motivation

Visualization of data is obviously very important. But often, as in the case of fantasy football, it can be crucial to making sense of data that normally very difficult to interpret. This post was inspired by the Fantasy Football Tier Visualiations performed by Boris Chen at the New York Times.

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Drive/Developer Projects/Python/pyffl/data/generated/wr/1.png

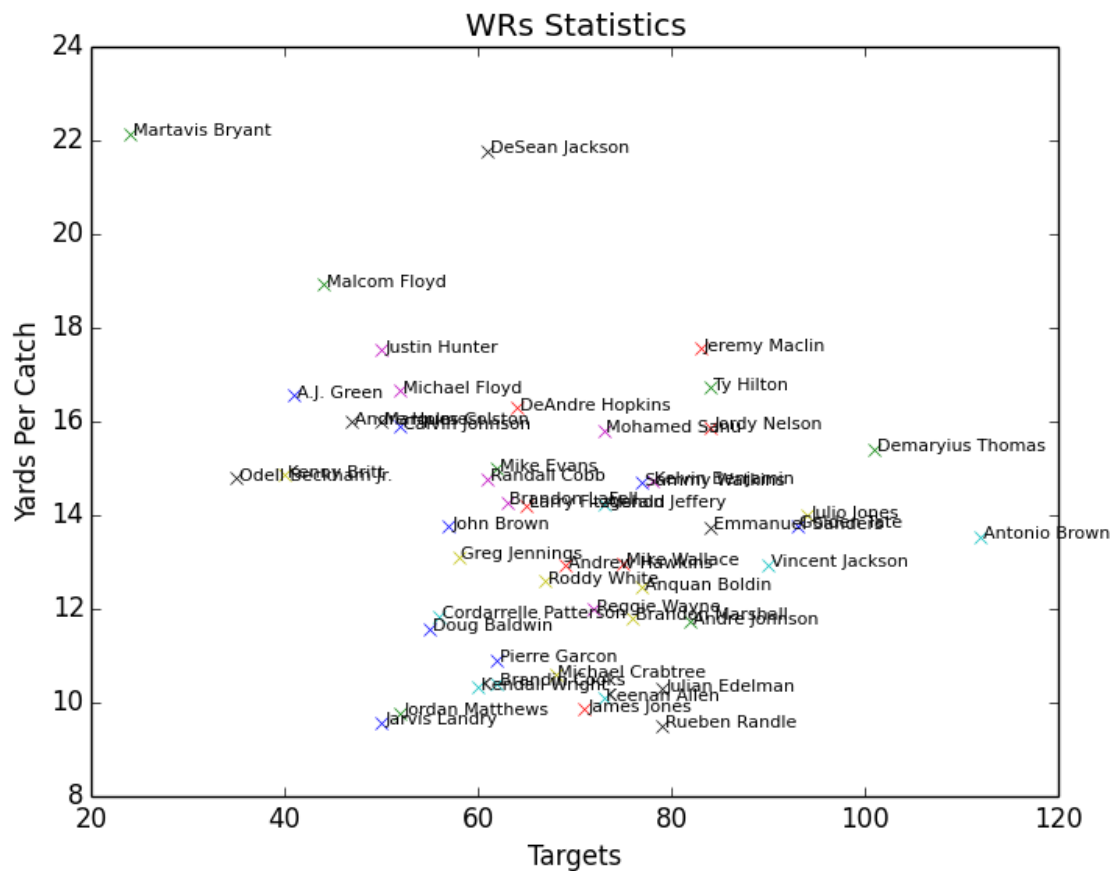


Figure 19: WR Visualization 1

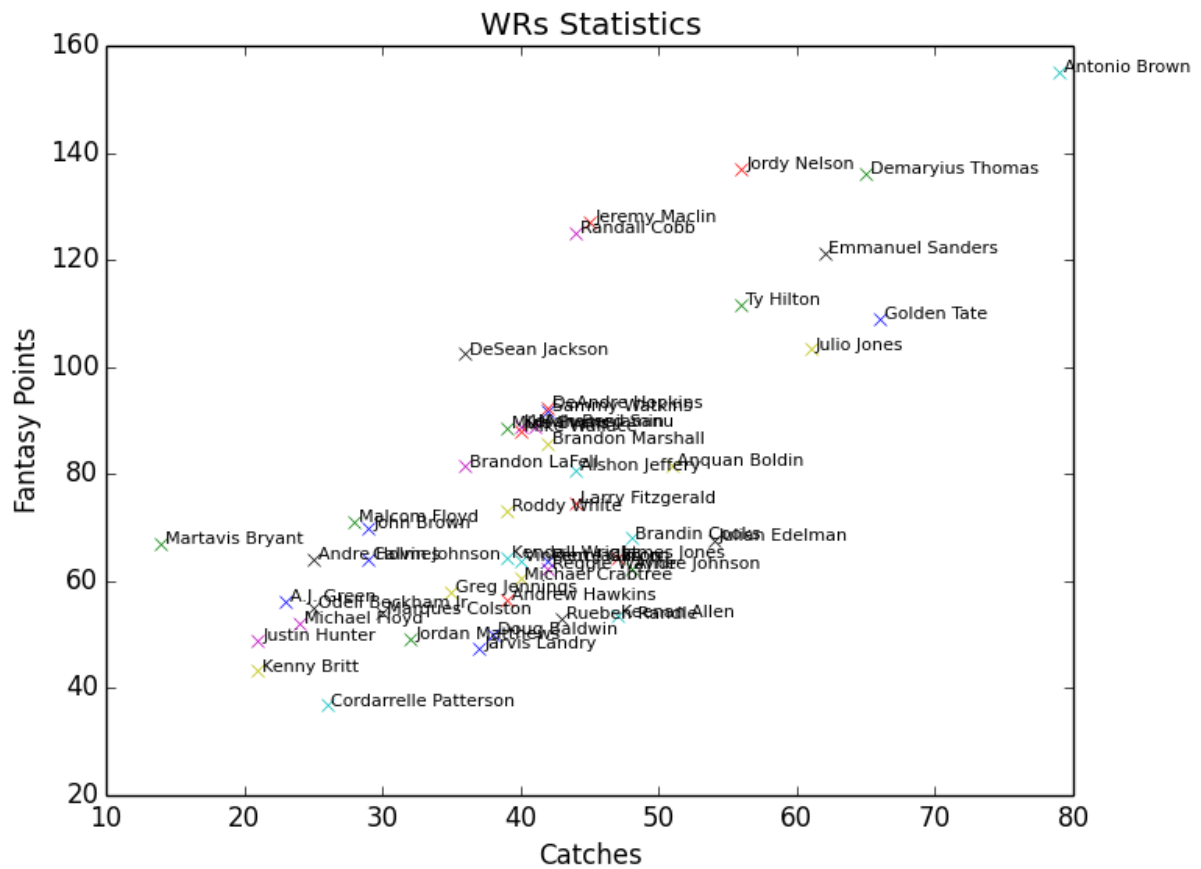
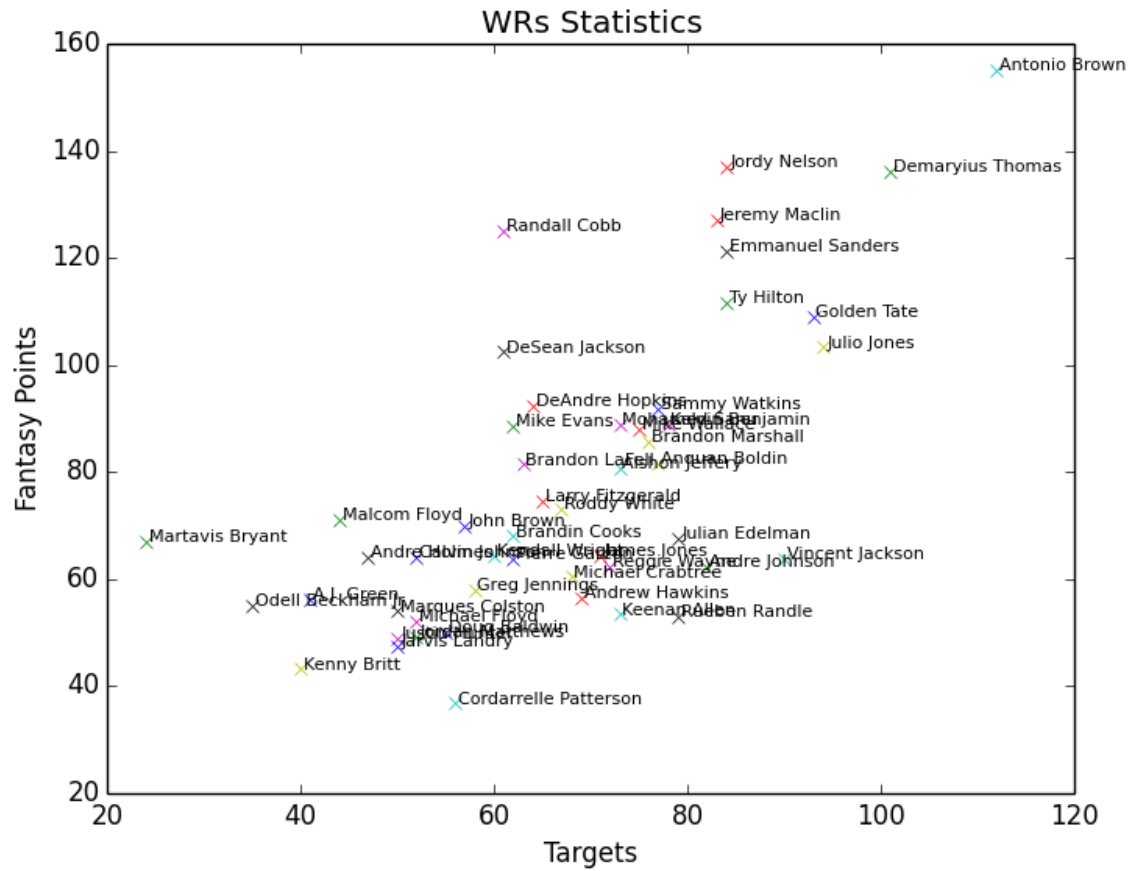


Figure 20: WR Visualization 2



Drive/Developer Projects/Python/pyffl/data/generated/wr/4.png

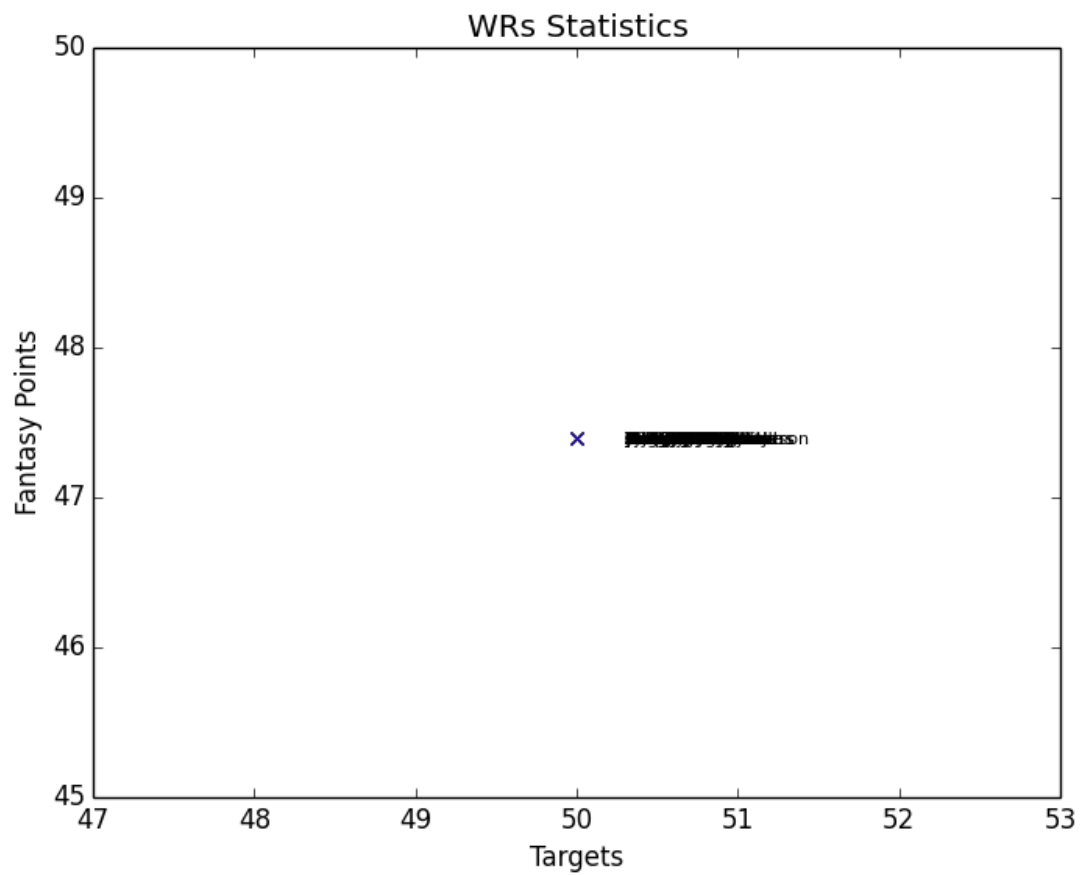


Figure 22: WR Visualization 4

DPS Graphs

DPS Analysis Overview

- DPS (Delta Ranking per STD) is a metric I'm fine tuning to perform all sorts of automated player analysis, such as buy-sell-hold labeling and sleeper detection. This model treats player's like stock and the trades / waiver wire pickups as the stock market. Just like the real stock market, projecting how a player's performance to date vs. how experts say that stock should perform in the future can be really helpful in a number of ways.
- The first rule is to understand that this chart is a tool, not a guideline. Just like an expert's stock market analysis, it can only suggest players who are undervalued or overvalued for you to go out and research. This chart is not predicting a player's performance in the future. In fact, it's not predicting anything at all - It simply looking at how the player has done compared to the overall consensus on how he should be doing.
- Please remember that this chart has absolutely no idea what the public's general consensus about that player is. Since that is something that is outside the realm of this algorithm, it simply suggests players that might be good to pickup and leaves the rest of the analysis to you! Here is a post I made to address this idea in a statistical sense:
- I essentially separate two measures of performance - how experts say a player should be playing and how they are actually playing. Note that there is no mention of how the general public feels about each player, as that is extremely hard to quantify reliably. So the phenomena that you are talking about (and most of the confusion about this metric) stems from the idea that whether a player is "underperforming" and whether a player is "tradeable" are not equivalent. If you want to talk about this statistically, basically this means that figuring out if a player is tradeable is not a pure function of their past performance - there is some other factor in the equation that takes into account how popular a player is, when he was drafted, intangibles, etc. This is why I say in the description that this is a tool, not a guideline - since it's too difficult to quantify, this graph solves half of the "buy low, sell high" equation and leaves the incalculable part to your discretion.

The Metrics

- DPS is the Delta per Std metric. This is the equivalent of looking at a player's current fantasy ranking (regardless of whether they have been on a bye/injured or not) and comparing it to where the general consensus on that player is. The formula goes like this ((where players are actually ranked) - (where experts, on average, say they should be ranked)) / (that player's standard deviation). Use this to determine who is a high sell/low buy when dealing with an inexperienced FFL player.
- DPS Adjusted is the same thing as DPS, but this metric does account for whether a player has missed a game from injury or a bye. This metric is probably better to use if your league is packed with experienced FFL players like mine.
- Sleeper/Dump is an algorithmic approximation for whether a player could be a potential sleeper or dump. This algorithm simply checks whether a projected player is outside the top 2/3 of the pack in their respective position and has a good potential to greatly improve. If a player has been out on injury, sometimes they will show up as a Sleeper. There is not any reliable way to account for this in the simulation, so we will all just have to be okay with that and use our heads. This does not mean that every player labelled sleeper is actually a sleeper! The algorithm has no idea what the general public's perception of a certain player is, because that is not readily quantifiable. Therefore, it can't take into account that your player was drafted very high and has been underperforming.

How To Use This Chart

- Again, remember that this chart is a tool, not a guideline. It can only suggest players who are undervalued or overvalued for you to go out and research. This chart is not predicting a player's

performance in the future. In fact, it's not predicting anything at all - It simply looking at how the player has done compared to the overall consensus on how he should be doing.

- Roughly speaking, positive numbers mean a player will increase in ranking (possible buy) and negative numbers mean that player will decline in ranking (possible sell). Anywhere near 0 means they will keep about the same rank (possibly hold). Obviously, the greater the magnitude, the higher degree of that statistic..

DPS Rankings - QB

Rank	Player	DPS	DPS Adjusted	(S)leeper/(D)ump
1	Andrew Luck	-1.16	-0.13	
2	Peyton Manning	0.89	0.1	
3	Aaron Rodgers	4.95	0.55	
4	Ben Roethlisberger	-1.72	-0.17	
5	Russell Wilson	-2.16	-0.24	
6	Tom Brady	3.27	0.36	
7	Drew Brees	3.75	0.42	
8	Philip Rivers	1.59	0.18	
9	Jay Cutler	-0.43	-0.05	
10	Matt Ryan	-0.99	-0.11	
11	Ryan Tannehill	-2.22	-0.25	
12	Matthew Stafford	1.44	0.16	
13	Colin Kaepernick	0.0	0.0	
14	Eli Manning	-2.6	-0.29	
15	Cam Newton	3.6	0.4	
16	Alex Smith	-1.21	-0.13	
17	Andy Dalton	0.0	0.0	
18	Brian Hoyer	-4.83	-0.54	
19	Derek Carr	-0.62	-0.07	
20	Austin Davis	-0.68	-0.08	
21	Mike Glennon	-3.7	-0.62	
22	Kyle Orton	-1.14	-0.23	
23	Teddy Bridgewater	1.36	0.23	
24	Josh McCown	1.87	0.47	
25	Drew Stanton	0.66	0.16	
26	Mark Sanchez	2.97	1.49	Sleeper
27	Robert Griffin III	8.59	2.86	
28	Zach Mettenberger	1.25	0.42	
29	Brock Osweiler	1.0	0.5	
30	Ryan Mallett	1.8	1.8	Sleeper

DPS Rankings - RB

Rank	Player	DPS	DPS Adjusted	(S)leeper/(D)ump
1	Marshawn Lynch	-0.62	-0.07	
2	Arian Foster	0.65	0.08	
3	Matt Forte	4.8	0.53	
4	Le'Veon Bell	1.14	0.11	
5	Andre Ellington	-1.64	-0.18	
6	Ahmad Bradshaw	-1.72	-0.19	
7	Jamaal Charles	2.0	0.25	
8	Eddie Lacy	0.8	0.09	
9	Alfred Morris	0.48	0.05	
10	Mark Ingram	1.55	0.26	
11	Lamar Miller	-1.73	-0.19	
12	Giovani Bernard	-0.81	-0.12	
13	Matt Asiata	-3.97	-0.44	
14	LeSean McCoy	3.96	0.44	
15	Jeremy Hill	0.13	0.01	
16	Frank Gore	1.73	0.19	
17	Shane Vereen	1.5	0.17	
18	Steven Jackson	0.86	0.1	
19	Branden Oliver	-3.15	-0.45	
20	Darren Sproles	-1.38	-0.17	
21	Bobby Rainey	-0.39	-0.04	
22	Joique Bell	0.22	0.03	
23	Fred Jackson	0.16	0.02	
24	Terrance West	3.66	0.46	
25	Trent Richardson	1.97	0.25	
26	Knile Davis	-6.62	-0.74	
27	Darren McFadden	-1.01	-0.11	
28	Antone Smith	-4.42	-0.49	
29	Ben Tate	0.31	0.04	
30	Andre Williams	-0.67	-0.07	
31	Benny Cunningham	-1.86	-0.21	
32	Rashad Jennings	1.24	0.25	
33	Isaiah Crowell	-1.84	-0.2	
34	Jerick McKinnon	2.69	0.3	
35	Roy Helu	-3.92	-0.44	
36	Jonathan Stewart	1.12	0.16	
37	Pierre Thomas	-1.36	-0.23	
38	Bishop Sankey	2.84	0.32	
39	Khiry Robinson	-1.9	-0.32	
40	Reggie Bush	1.06	0.15	
41	Zac Stacy	-3.47	-0.43	
42	Carlos Hyde	-1.29	-0.14	
43	LeGarrette Blount	-3.46	-0.35	
44	Tre Mason	2.63	0.53	
45	Theo Riddick	-0.73	-0.1	
46	Alfred Blue	-1.12	-0.12	
47	C.J. Anderson	1.54	0.19	
48	Devonta Freeman	-2.07	-0.23	
49	Juwan Thompson	0.08	0.01	
50	Robert Turbin	-2.28	-0.25	

DPS Rankings - WR

Rank	Player	DPS	DPS Adjusted	(S)leeper/(D)ump
1	Antonio Brown	-1.79	-0.18	
2	Demaryius Thomas	0.86	0.1	
3	Jordy Nelson	1.25	0.14	
4	Jeremy Maclin	-0.68	-0.08	
5	Randall Cobb	0.94	0.1	
6	Emmanuel Sanders	0.0	0.0	
7	Ty Hilton	-0.55	-0.06	
8	Golden Tate	-1.03	-0.11	
9	Kelvin Benjamin	-0.75	-0.07	
10	DeSean Jackson	-0.57	-0.06	
11	Mohamed Sanu	-3.23	-0.36	
12	Julio Jones	4.98	0.55	
13	Sammy Watkins	-1.55	-0.17	
14	DeAndre Hopkins	-1.86	-0.21	
15	Mike Evans	0.0	0.0	
16	Mike Wallace	0.0	0.0	
17	Alshon Jeffery	1.71	0.19	
18	Brandon Marshall	1.2	0.13	
19	Anquan Boldin	-1.17	-0.13	
20	Brandon LaFell	0.36	0.04	
21	Brandin Cooks	-1.6	-0.18	
22	Jordan Matthews	-1.28	-0.14	
23	Roddy White	0.58	0.07	
24	Julian Edelman	-0.52	-0.06	
25	Larry Fitzgerald	-0.66	-0.07	
26	Malcom Floyd	-3.28	-0.36	
27	John Brown	-2.39	-0.27	
28	Eddie Royal	-3.89	-0.43	
29	Martavis Bryant	1.03	0.26	
30	Kendall Wright	-2.41	-0.27	
31	Calvin Johnson	25.56	4.26	
32	Andre Holmes	-1.74	-0.19	
33	Pierre Garcon	0.71	0.08	
34	Vincent Jackson	2.55	0.28	
35	Reggie Wayne	0.73	0.09	
36	James Jones	-0.11	-0.01	
37	Michael Crabtree	0.89	0.1	
38	Andre Johnson	1.44	0.16	
39	Greg Jennings	-1.24	-0.14	
40	Steve Johnson	-4.67	-0.52	
41	Markus Wheaton	-3.06	-0.31	
42	Odell Beckham Jr.	3.18	0.64	
43	Andrew Hawkins	-0.18	-0.02	
44	A.J. Green	9.92	1.65	
45	Cordarrelle Patterson	1.49	0.17	
46	Keenan Allen	4.86	0.54	
47	Rueben Randle	1.76	0.2	
48	Michael Floyd	1.14	0.13	
49	Marques Colston	1.61	0.18	
50	Miles Austin	-2.17	-0.24	

DPS Rankings - TE

Rank	Player	DPS	DPS Adjusted	(S)leeper/(D)ump
1	Rob Gronkowski	0.0	0.0	
2	Julius Thomas	0.0	0.0	
3	Jimmy Graham	7.12	0.79	
4	Antonio Gates	1.94	0.22	
5	Greg Olsen	0.37	0.04	
6	Martellus Bennett	0.82	0.09	
7	Dwayne Allen	0.78	0.09	
8	Delanie Walker	-0.95	-0.11	
9	Travis Kelce	0.58	0.06	
10	Larry Donnell	0.67	0.07	
11	Coby Fleener	-2.73	-0.3	
12	Heath Miller	-0.84	-0.08	
13	Jared Cook	-0.34	-0.04	
14	Zach Ertz	-1.39	-0.15	
15	Mychal Rivera	1.06	0.12	
16	Charles Clay	2.63	0.29	
17	Lance Kendricks	-5.12	-0.57	
18	Scott Chandler	-2.06	-0.23	
19	Timothy Wright	-2.03	-0.23	
20	Daniel Fells	-2.56	-0.28	
21	Andrew Quarless	-2.96	-0.33	
22	Jordan Cameron	1.47	0.24	
23	Josh Hill	-2.19	-0.24	
24	Austin Seferian-Jenkins	1.02	0.15	
25	Anthony Fasano	-0.63	-0.07	
26	Vernon Davis	3.19	0.46	
27	John Carlson	0.68	0.08	
28	Jermaine Gresham	1.98	0.22	
29	Jordan Reed	5.65	1.13	
30	Brent Celek	1.08	0.12	
31	Jim Dray	0.58	0.06	
32	Levine Toilolo	-0.42	-0.05	
33	Jacob Tamme	0.46	0.05	
34	Ladarius Green	0.37	0.05	
35	Eric Ebron	-0.2	-0.03	
36	Kyle Rudolph	4.84	1.61	
37	Brandon Myers	-0.57	-0.06	
38	Luke Willson	2.98	0.37	
39	Richard Rodgers	0.93	0.1	
40	James Casey	-0.34	-0.04	
41	Benjamin Watson	-0.48	-0.05	
42	Dante Rosario	0.44	0.05	
43	Joseph Fauria	1.67	0.56	
44	Brandon Pettigrew	0.56	0.07	
45	Robert Housler	0.28	0.04	
46	Ed Dickson	0.81	0.08	