

Predicting Fantasy Football Performances

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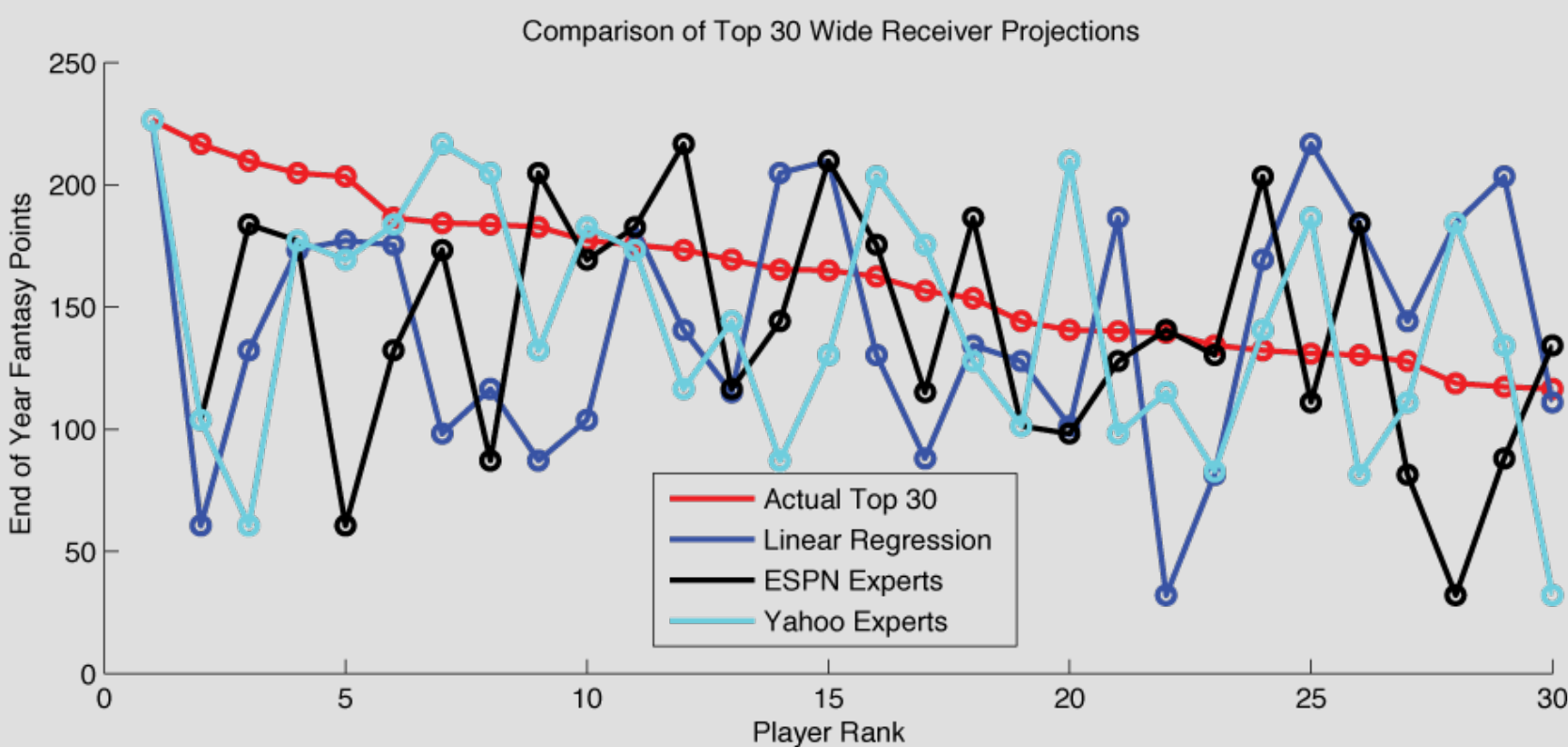
Motivation

Methods

$$\beta = [w_{\text{FantasyPts}} \ w_{\text{RecYds}} \ w_{\text{RecTDs}} \ w_{\text{Targets}} \ w_{\text{Catches}} \ w_{\Delta 1\text{yrRecYds}} \ w_{\Delta 1\text{yrRecTDs}} \\ w_{\Delta 2\text{yrRecYds}} \ w_{\Delta 2\text{yrRecTDs}} \ w_{\Delta 3\text{yrRecYds}} \ w_{\Delta 3\text{yrRecTDs}} \ w_{\text{ESPN}} \ w_{\text{Yahoo}}]$$

$$\beta = [w_1 \dots w_L]$$

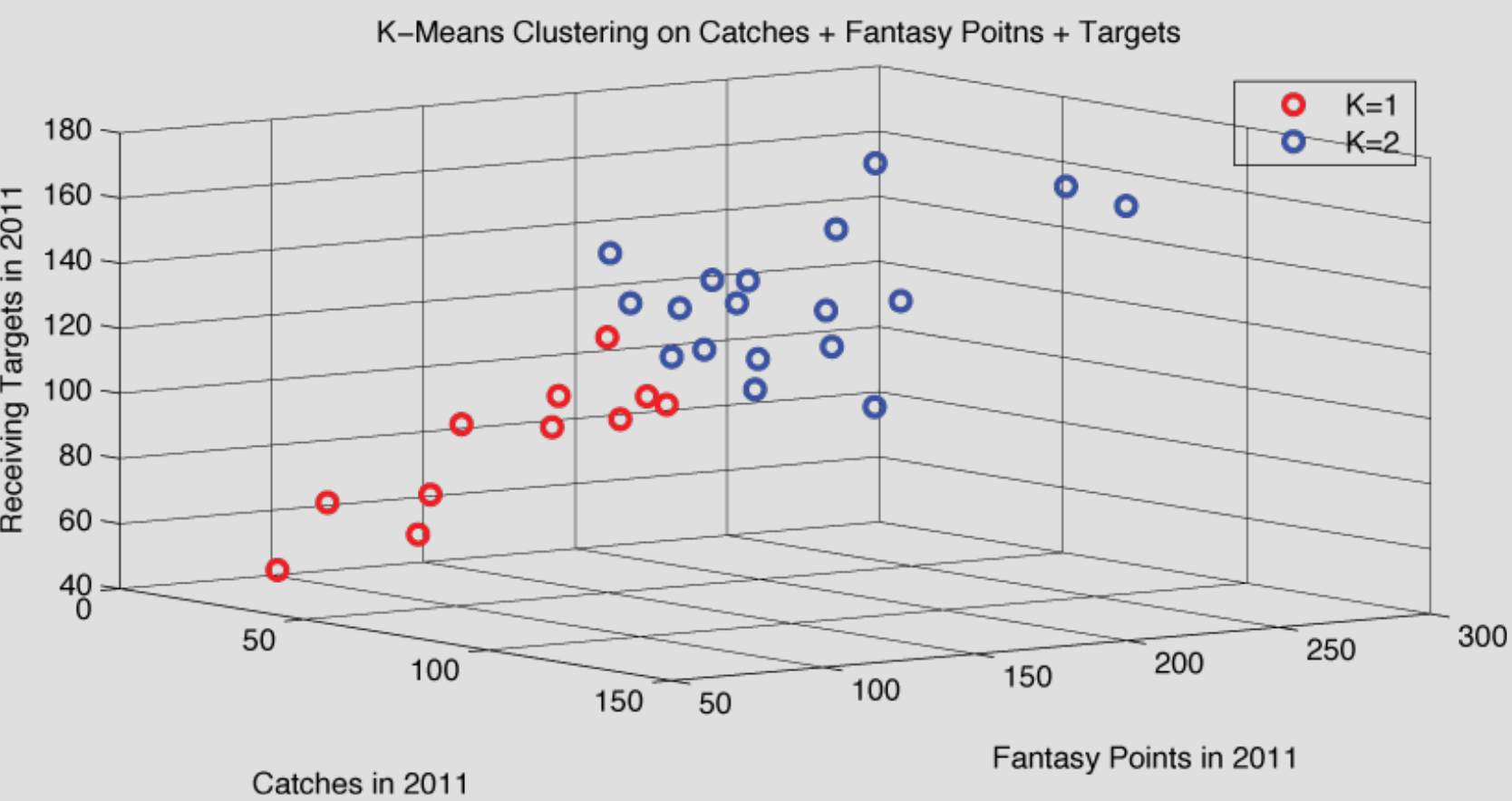
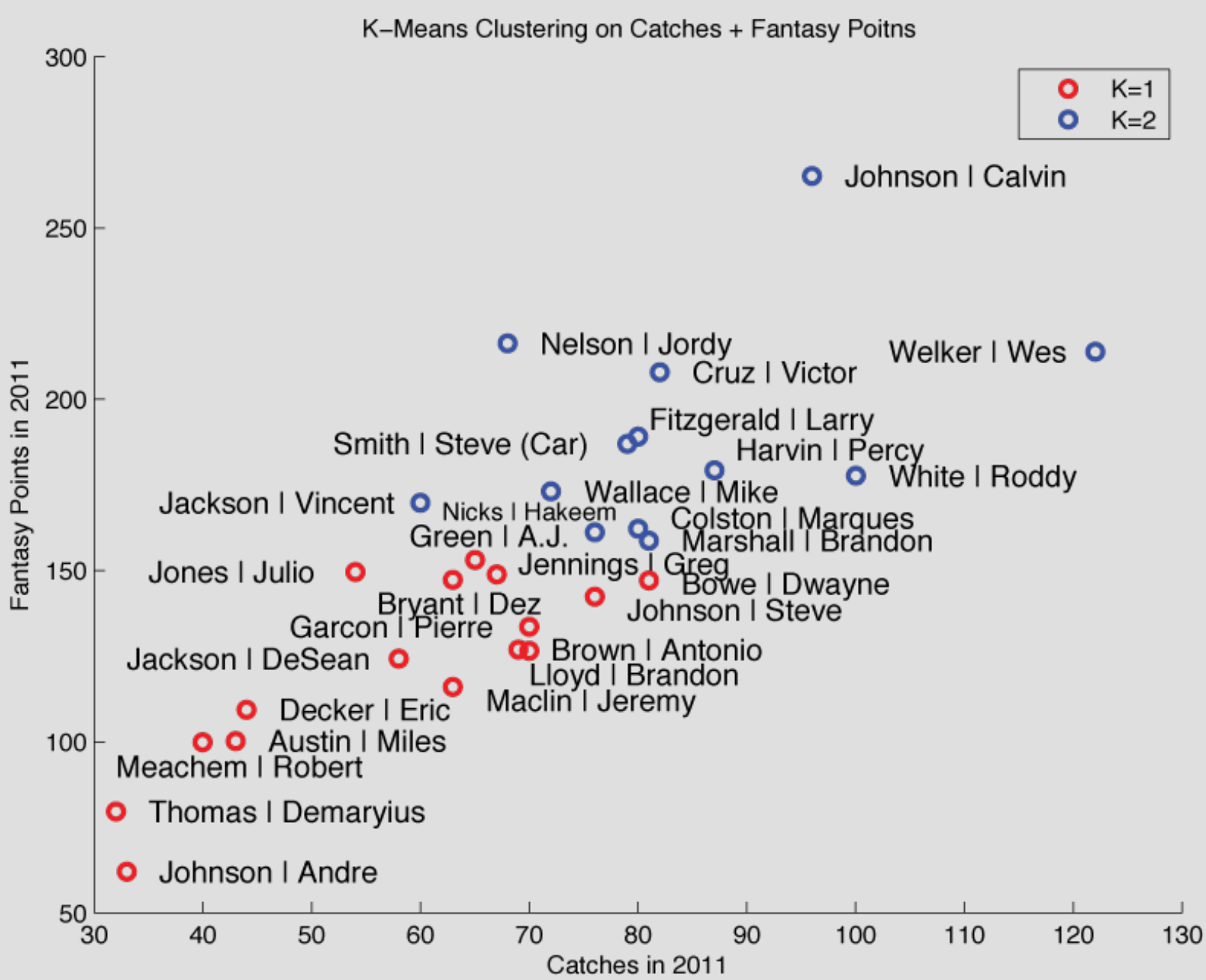
Linear Regression



Linear Regression



K-Means Mixture Model

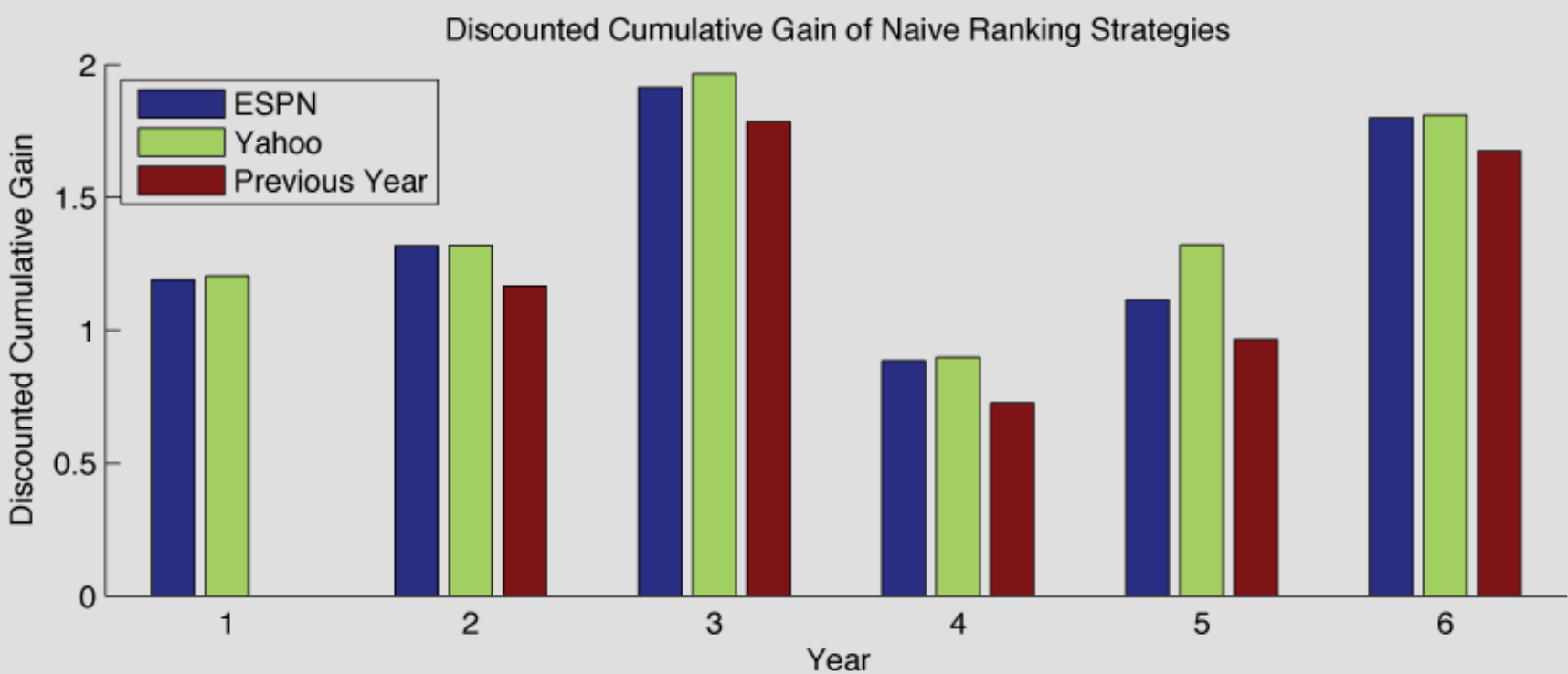


K-Means Mixture Model

# Mixtures	K Means Features	DCG (6 Features)	DCG (2 Features)
2	Catches Fantasy Points	1.7601	1.8063
2	Fantasy Points	1.7601	1.7925
3	Fantasy Points	1.3621	1.7880
2	Receiving Targets	1.2053	1.7877
2	Catches Fantasy Points Targets	1.1887	1.7863
2	Catches	1.1811	1.7814
2	Touchdowns	1.1107	1.7747
2	Receiving Yards	1.0857	1.4428

Something Else

Data



Expert	Discounted Cumulative Gain for 2012 Predictions
ESPN Expert (Matthew Berry)	1.7991
Yahoo Team of Experts	1.8100

Conclusion

References

Method	β	Discounted Cumulative Gain
13 Features	$\beta = [w_{\text{FantasyPts}} \ w_{\text{RecYds}} \ w_{\text{RecTDs}} \ w_{\text{Targets}} \ w_{\text{Catches}} \ w_{\Delta 1\text{yrRecYds}} \ w_{\Delta 1\text{yrRecTDs}} \ w_{\Delta 2\text{yrRecYds}} \ w_{\Delta 2\text{yrRecTDs}} \ w_{\Delta 3\text{yrRecYds}} \ w_{\Delta 3\text{yrRecTDs}} \ w_{\text{ESPN}} \ w_{\text{Yahoo}}]$ $\beta = [0.17, 0.059, 12.91, -0.25, 0.18, -0.34, -4.82, -0.031, 0.61, 0.044, -3.36, -1.05, 1.03]$	1.7179
7 Features	$\beta = [w_{\text{FantasyPts}} \ w_{\text{RecYds}} \ w_{\text{RecTDs}} \ w_{\Delta 1\text{yrRecYds}} \ w_{\Delta 1\text{yrRecTDs}} \ w_{\text{ESPN}} \ w_{\text{Yahoo}}]$ $\beta = [-0.18, 0.12, 11.10, -0.056, -3.35, -2.27, 1.67]$	1.7722
6 Features	$\beta = [w_{\text{FantasyPts}} \ w_{\text{RecYds}} \ w_{\text{RecTDs}} \ w_{\Delta 1\text{yrRecYds}} \ w_{\Delta 1\text{yrRecTDs}} \ w_{\text{ESPN}}]$ $\beta = [0.10, 0.079, 10.23, -0.06, -3.09, -0.403]$	1.7621
3 Features	$\beta = [w_{\text{FantasyPts}} \ w_{\text{RecYds}} \ w_{\text{RecTDs}}]$ $\beta = [1.72, -0.061, -5.08]$	1.7806
2 Features	$\beta = [w_{\text{FantasyPts}} \ w_{\text{RecTDs}}]$ $\beta = [1.15, -2.031]$	1.7896
2 Features	$\beta = [w_{\text{FantasyPts}} \ w_{\text{RecYds}}]$ $\beta = [0.92, 0.019]$	1.7863