

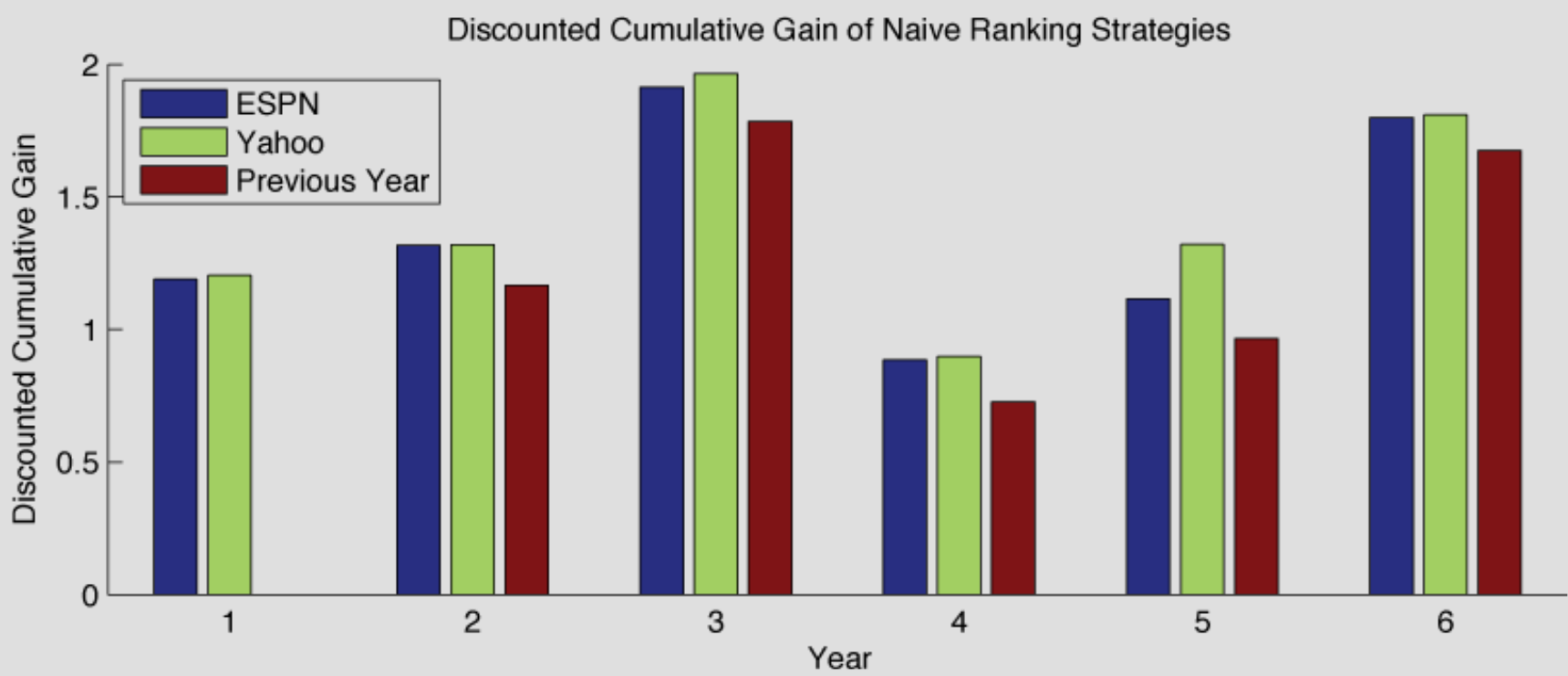
Predicting Fantasy Football Performances

John O'Hollaren (jpo4@duke.edu)
Department of Electrical and Computer Engineering
Duke University

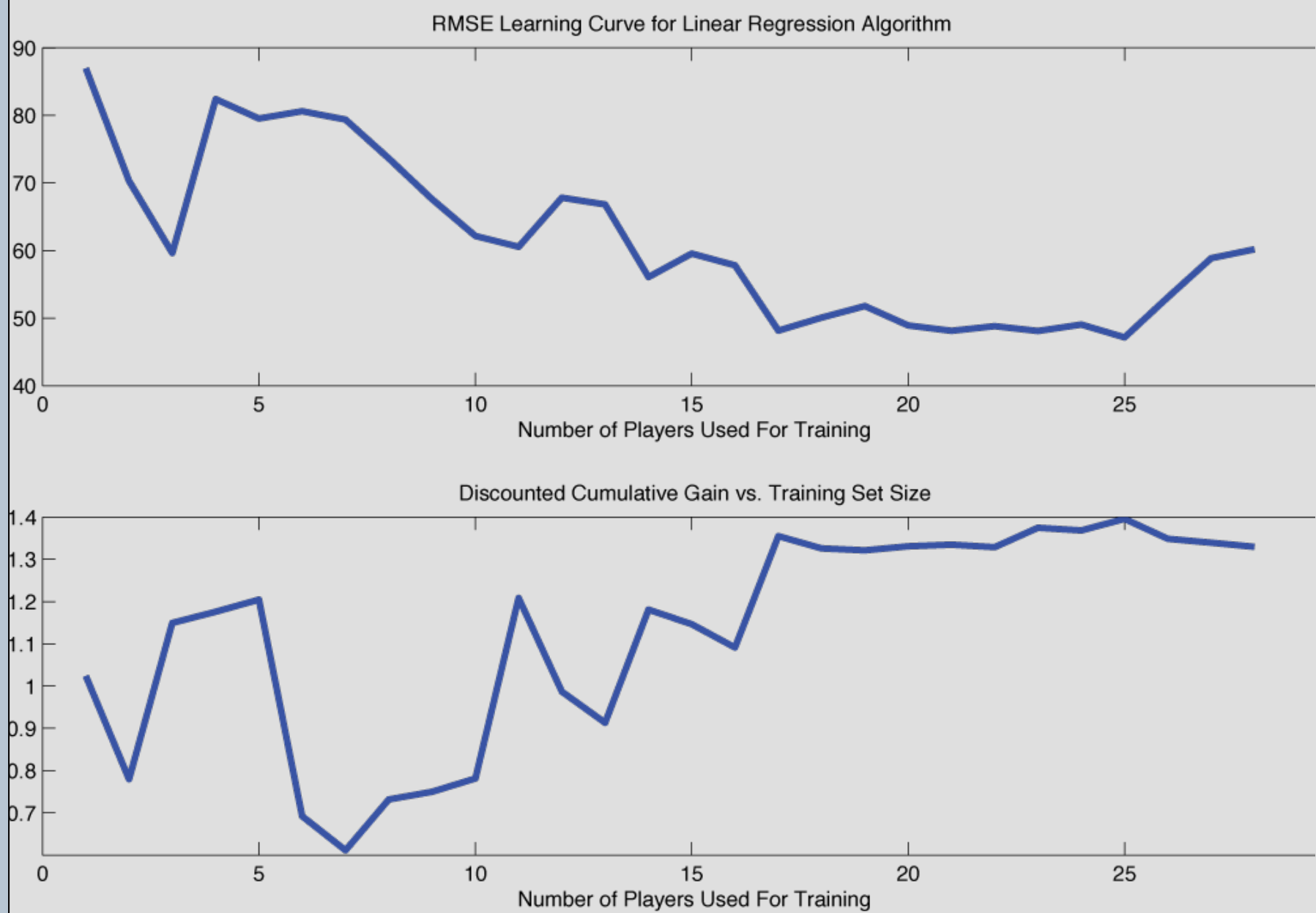


Motivation

Data



Results



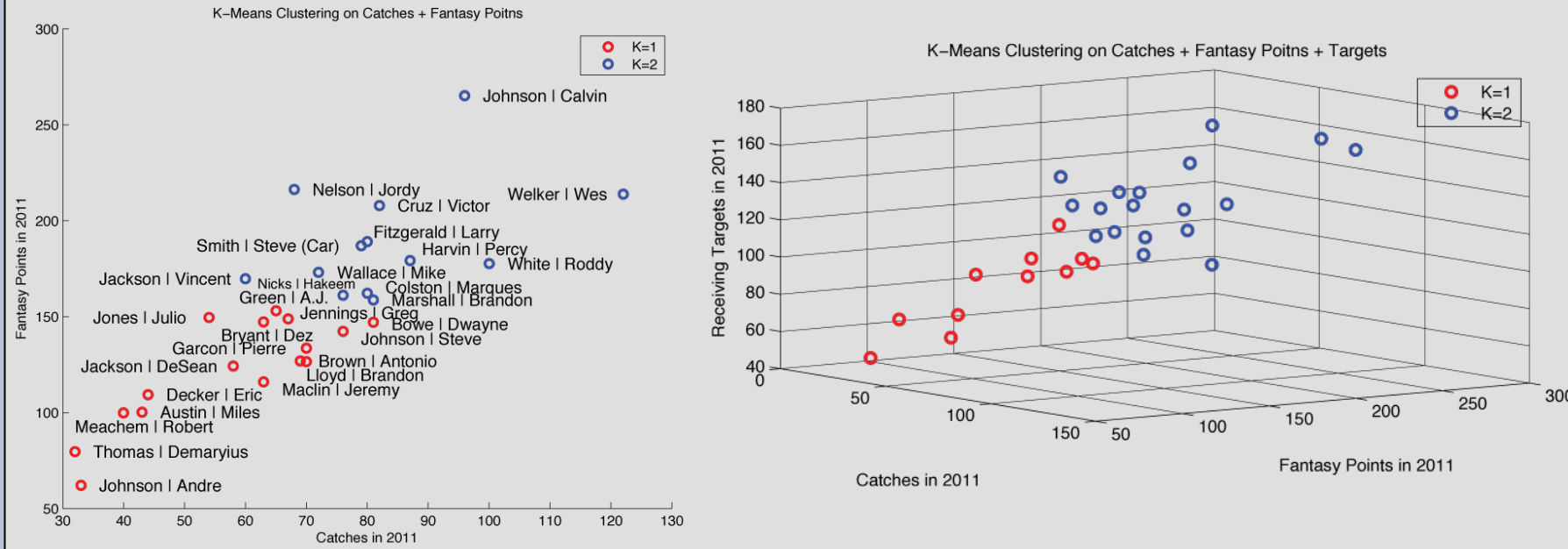
Methods

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

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

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

Results



# Mixtures	K Means Features	$\beta_1 \dots \beta_K$	Discounted Cumulative Gain
2	Catches Fantasy Points	$\beta_1 = [-3.57, 0.46, 26.96, -0.025, 1.91, 8.75]$ $\beta_2 = [-7.38, 0.92, 41.55, -0.094, 1.61, 6.85]$	1.7601
2	Fantasy Points	$\beta_1 = [-3.57, 0.46, 26.97, -0.025, 1.91, 8.75]$ $\beta_2 = [-7.38, 0.92, 41.55, -0.094, 1.61, 6.85]$	1.7601
3	Fantasy Points	$\beta_1 = [-1.71, 0.37, 23.83, -0.01, 2.24, 71.3]$ $\beta_2 = [-0.14, 0.12, 10.48, -0.04, -7.11, 1.5]$ $\beta_3 = [-3.78, 0.61, 12.37, -0.12, 10.2, 13.7]$	1.3621
2	Receiving Targets	$\beta_1 = [-8.45, 1.17, 27.46, -0.12, 11.5, 13.35]$ $\beta_2 = [-0.54, 0.2, 4.82, -0.085, -0.089, 4.20]$	1.2053
2	Catches Fantasy Points Targets	$\beta_1 = [2.71, -0.42, 0.61, -0.89, 45.02, 42.26]$ $\beta_2 = [-0.70, 0.23, 4.00, -0.084, 0.83, 2.64]$	1.1887
2	Catches	$\beta_1 = [-1.04, 0.27, 6.02, -0.083, 0.16, 3.02]$ $\beta_2 = [4.98, -0.99, 68.03, -0.32, 56.68, 24.8]$	1.1811
2	Touchdowns	$\beta_1 = [-4.09, 0.56, 24.85, -0.02, -4.31, 3.59]$ $\beta_2 = [44.5, -4.44, -288, 0.11, 48.39, 52.04]$	1.1107
2	Receiving Yards	$\beta_1 = [-3.48, 0.48, 25.5, -0.06, -0.51, 5.64]$ $\beta_2 = [17.87, -1.5, -115.9, -0.06, 3.82, 6.90]$	1.0857

# Mixtures	K Means Features	$\beta_1 \dots \beta_K$	Discounted Cumulative Gain
2	Catches Fantasy Points	$\beta_1 = []$ $\beta_2 = []$	1.7601
2	Fantasy Points	$\beta_1 = []$ $\beta_2 = []$	1.7601
3	Fantasy Points	$\beta_1 = []$ $\beta_2 = []$ $\beta_3 = []$	1.3621
2	Receiving Targets	$\beta_1 = []$ $\beta_2 = []$	1.2053
2	Catches Fantasy Points Targets	$\beta_1 = []$ $\beta_2 = []$	1.1887
2	Catches	$\beta_1 = []$ $\beta_2 = []$	1.1811
2	Touchdowns	$\beta_1 = []$ $\beta_2 = []$	1.1107
2	Receiving Yards	$\beta_1 = []$ $\beta_2 = []$	1.0857

References

