ECO 310: Problem Set #9

Due: April 26, 2016

Kevin Liu

Problem 1

I	Regression Type	r^2	\mathbf{RMSE}
Ore	dinary Least Squares	0.76	4005.25
K	Nearest Neighbors	0.42	6251.03
	Ridge	0.61	5087.40
	Lasso	0.67	4716.40
	Elastic Net	0.37	6514.98
	Decision Tree	0.04	8042.44
	Random Forest	0.35	6628.65

Rank	Institution Name	Residual
1	Rutgers University-Newark	-12387.28
2	Pennsylvania State University-Penn State Lehigh	-11728.43
3	Pennsylvania State University-Penn State York	-11050.88
4	Rutgers University-Camden	-9411.65
5	Swedish Institute a College of Health Sciences	-8643.17
6	Florida National University-Main Campus	-8355.56
7	Baker College of Flint	-8024.05
8	SUNY at Purchase College	-7550.39
9	South University-The Art Institute of Dallas	-7488.18
10	Oklahoma City University	-7364.77

Rank	Institution Name	Residual
1	Westwood College-Los Angeles	12259.81
2	Fairfield University	11905.85
3	Savannah State University	11050.12
4	Prescott College	8524.98
5	Auburn University	6719.69
6	Pacific Oaks College	6449.84
7	Rose-Hulman Institute of Technology	6331.67
8	Silver Lake College of the Holy Family	5702.42
9	Daemen College	4529.33
10	University of Colorado Boulder	4446.70
Rank	Institution Name	Residual
$\frac{\mathbf{Rank}}{1}$	Institution Name Eastern Connecticut State University	-30900.00
1	Eastern Connecticut State University	-30900.00
1 2	Eastern Connecticut State University Southern University and A & M College	-30900.00 -26800.00
1 2 3	Eastern Connecticut State University Southern University and A & M College Auburn University	-30900.00 -26800.00 -26000.00
1 2 3 4	Eastern Connecticut State University Southern University and A & M College Auburn University Savannah State University	-30900.00 -26800.00 -26000.00 -23600.00
1 2 3 4 5	Eastern Connecticut State University Southern University and A & M College Auburn University Savannah State University Touro College	-30900.00 -26800.00 -26000.00 -23600.00 -20116.67
1 2 3 4 5 6	Eastern Connecticut State University Southern University and A & M College Auburn University Savannah State University Touro College Hendrix College	-30900.00 -26800.00 -26000.00 -23600.00 -20116.67 -18692.31
1 2 3 4 5 6 7	Eastern Connecticut State University Southern University and A & M College Auburn University Savannah State University Touro College Hendrix College California College of the Arts	-30900.00 -26800.00 -26000.00 -23600.00 -20116.67 -18692.31 -15392.31

Rank	Institution Name	Residual
1	Rose-Hulman Institute of Technology	31900.00
2	Butler University	21200.00
3	Bryan College of Health Sciences	18541.90
4	University of Oklahoma-Health Sciences Center	17803.13
5	Washington Adventist University	10862.69
6	Pace University-New York	10403.13
7	CUNY Bernard M Baruch College	9521.54
8	The University of Texas at Dallas	8821.54
9	Silver Lake College of the Holy Family	8820.00
10	Stony Brook University	8721.54
Ranl	Institution Name	Residual
1	Naropa University	-20060
2	Florida National University-Main Campus	-16760
3	California College of the Arts	-16720
4	Metropolitan State University of Denver	-15960
5	Eastern Connecticut State University	-14940
6	Hendrix College	-14400
7	Prescott College	-13000
8	Thomas University	-10320
9	Westmont College	-9480
10	New York College of Health Professions	-9300
	9	
Rank	Institution Name	Residual
1	Institution Name Rose-Hulman Institute of Technology	Residual 24200
1 2	Institution Name Rose-Hulman Institute of Technology University of Oklahoma-Health Sciences Center	Residual 24200
1	Institution Name Rose-Hulman Institute of Technology University of Oklahoma-Health Sciences Center New York School of Interior Design	Residual 24200
1 2	Institution Name Rose-Hulman Institute of Technology University of Oklahoma-Health Sciences Center	Residual 24200 21940
1 2 3	Institution Name Rose-Hulman Institute of Technology University of Oklahoma-Health Sciences Center New York School of Interior Design Bryan College of Health Sciences Butler University	Residual 24200 21940 15020
1 2 3 4	Institution Name Rose-Hulman Institute of Technology University of Oklahoma-Health Sciences Center New York School of Interior Design Bryan College of Health Sciences	Residual 24200 21940 15020 14800
1 2 3 4 5	Institution Name Rose-Hulman Institute of Technology University of Oklahoma-Health Sciences Center New York School of Interior Design Bryan College of Health Sciences Butler University	Residual 24200 21940 15020 14800 11240
1 2 3 4 5 6	Rose-Hulman Institute of Technology University of Oklahoma-Health Sciences Center New York School of Interior Design Bryan College of Health Sciences Butler University CUNY Bernard M Baruch College Michigan Technological University Pace University-New York	Residual 24200 21940 15020 14800 11240 11240
1 2 3 4 5 6 7	Rose-Hulman Institute of Technology University of Oklahoma-Health Sciences Center New York School of Interior Design Bryan College of Health Sciences Butler University CUNY Bernard M Baruch College Michigan Technological University	Residual 24200 21940 15020 14800 11240 11240 10020
1 2 3 4 5 6 7 8	Rose-Hulman Institute of Technology University of Oklahoma-Health Sciences Center New York School of Interior Design Bryan College of Health Sciences Butler University CUNY Bernard M Baruch College Michigan Technological University Pace University-New York	Residual 24200 21940 15020 14800 11240 11240 10020 8340
1 2 3 4 5 6 7 8	Rose-Hulman Institute of Technology University of Oklahoma-Health Sciences Center New York School of Interior Design Bryan College of Health Sciences Butler University CUNY Bernard M Baruch College Michigan Technological University Pace University-New York The University of Texas at Dallas Daemen College	Residual 24200 21940 15020 14800 11240 11240 10020 8340 8220
1 2 3 4 5 6 7 8 9	Institution Name Rose-Hulman Institute of Technology University of Oklahoma-Health Sciences Center New York School of Interior Design Bryan College of Health Sciences Butler University CUNY Bernard M Baruch College Michigan Technological University Pace University-New York The University of Texas at Dallas Daemen College Institution Name	Residual 24200 21940 15020 14800 11240 110020 8340 8220 7140
1 2 3 4 5 6 7 8 9 10 Ran	Institution Name Rose-Hulman Institute of Technology University of Oklahoma-Health Sciences Center New York School of Interior Design Bryan College of Health Sciences Butler University CUNY Bernard M Baruch College Michigan Technological University Pace University-New York The University of Texas at Dallas Daemen College Institution Name Naropa University	Residual 24200 21940 15020 14800 11240 110020 8340 8220 7140 Residual
1 2 3 4 5 6 7 8 9 10 Ran	Rose-Hulman Institute of Technology University of Oklahoma-Health Sciences Center New York School of Interior Design Bryan College of Health Sciences Butler University CUNY Bernard M Baruch College Michigan Technological University Pace University-New York The University of Texas at Dallas Daemen College Institution Name Naropa University-Ponce	Residual 24200 21940 15020 14800 11240 11240 10020 8340 8220 7140 Residual -19025.82
1 2 3 4 5 6 7 8 9 10 Ram 1 2	Rose-Hulman Institute of Technology University of Oklahoma-Health Sciences Center New York School of Interior Design Bryan College of Health Sciences Butler University CUNY Bernard M Baruch College Michigan Technological University Pace University-New York The University of Texas at Dallas Daemen College Institution Name Naropa University Caribbean University-Ponce Caribbean University-Vega Baja Universidad Metropolitana	Residual 24200 21940 15020 14800 11240 11240 10020 8340 8220 7140 Residual -19025.82 -15868.10
1 2 3 4 5 6 7 8 9 10 Ran 1 2 3	Institution Name Rose-Hulman Institute of Technology University of Oklahoma-Health Sciences Center New York School of Interior Design Bryan College of Health Sciences Butler University CUNY Bernard M Baruch College Michigan Technological University Pace University-New York The University of Texas at Dallas Daemen College Institution Name Naropa University Caribbean University-Ponce Caribbean University-Vega Baja Universidad Metropolitana Hendrix College	Residual 24200 21940 15020 14800 11240 11240 10020 8340 8220 7140 Residual -19025.82 -15868.10 -15846.24 -15624.29 -14336.91
1 2 3 4 5 6 7 8 9 10 Ran 1 2 3 4	Rose-Hulman Institute of Technology University of Oklahoma-Health Sciences Center New York School of Interior Design Bryan College of Health Sciences Butler University CUNY Bernard M Baruch College Michigan Technological University Pace University-New York The University of Texas at Dallas Daemen College k Institution Name Naropa University Caribbean University-Ponce Caribbean University-Vega Baja Universidad Metropolitana Hendrix College American University of Puerto Rico	Residual 24200 21940 15020 14800 11240 11240 10020 8340 8220 7140 Residual 19025.82 -15868.10 -15846.24 -15624.29 -14336.91 -11460.36
1 2 3 4 5 6 7 8 9 10 Ran 1 2 3 4 5 5	Rose-Hulman Institute of Technology University of Oklahoma-Health Sciences Center New York School of Interior Design Bryan College of Health Sciences Butler University CUNY Bernard M Baruch College Michigan Technological University Pace University-New York The University of Texas at Dallas Daemen College Institution Name Naropa University Caribbean University-Ponce Caribbean University-Vega Baja Universidad Metropolitana Hendrix College American University of Puerto Rico Baker College of Flint	Residual 24200 21940 15020 14800 11240 11240 10020 8340 8220 7140 Residual -19025.82 -15868.10 -15846.24 -15624.29 -14336.91 -11460.36 -9918.07
1 2 3 4 5 6 7 8 9 10 Ran 1 2 3 4 5 6	Rose-Hulman Institute of Technology University of Oklahoma-Health Sciences Center New York School of Interior Design Bryan College of Health Sciences Butler University CUNY Bernard M Baruch College Michigan Technological University Pace University-New York The University of Texas at Dallas Daemen College Institution Name Naropa University Caribbean University-Ponce Caribbean University-Vega Baja Universidad Metropolitana Hendrix College American University of Puerto Rico Baker College of Flint Grace College and Theological Seminary	Residual 24200 21940 15020 14800 11240 11240 10020 8340 8220 7140 Residual -19025.82 -15868.10 -15846.24 -15624.29 -14336.91 -11460.36 -9918.07 -9868.67
1 2 3 4 5 6 7 8 9 10 Ran 1 2 3 4 5 6 7	Rose-Hulman Institute of Technology University of Oklahoma-Health Sciences Center New York School of Interior Design Bryan College of Health Sciences Butler University CUNY Bernard M Baruch College Michigan Technological University Pace University-New York The University of Texas at Dallas Daemen College k Institution Name Naropa University Caribbean University-Ponce Caribbean University-Vega Baja Universidad Metropolitana Hendrix College American University of Puerto Rico Baker College of Flint Grace College and Theological Seminary University of Alaska Southeast	Residual 24200 21940 15020 14800 11240 11240 10020 8340 8220 7140 Residual -19025.82 -15868.10 -15846.24 -15624.29 -14336.91 -11460.36 -9918.07

Rank	Institution Name	Residual
1	University of Oklahoma-Health Sciences Center	20867.00
2	Rose-Hulman Institute of Technology	19831.42
3	Bryan College of Health Sciences	16874.28
4	New York School of Interior Design	16860.56
5	Washington and Lee University	13324.51
6	Washington Adventist University	10727.73
7	Michigan Technological University	10599.53
8	Butler University	10319.31
9	Fairfield University	8142.88
10	CUNY Bernard M Baruch College	7997.13