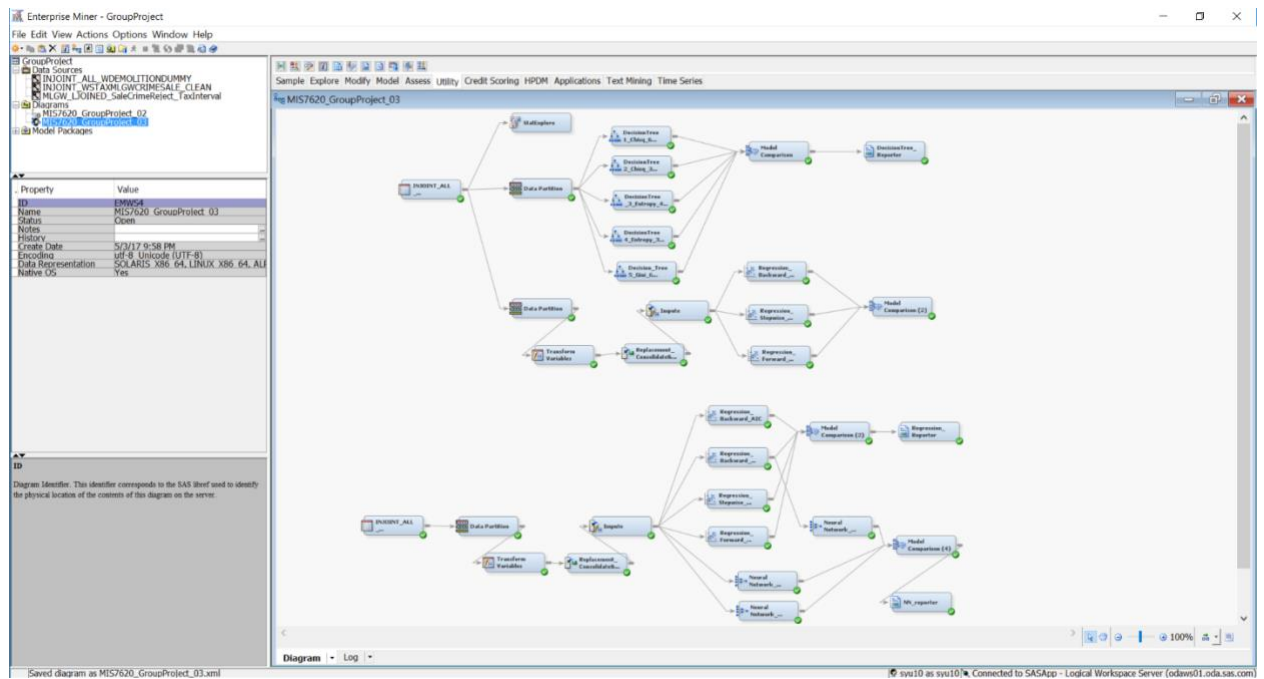
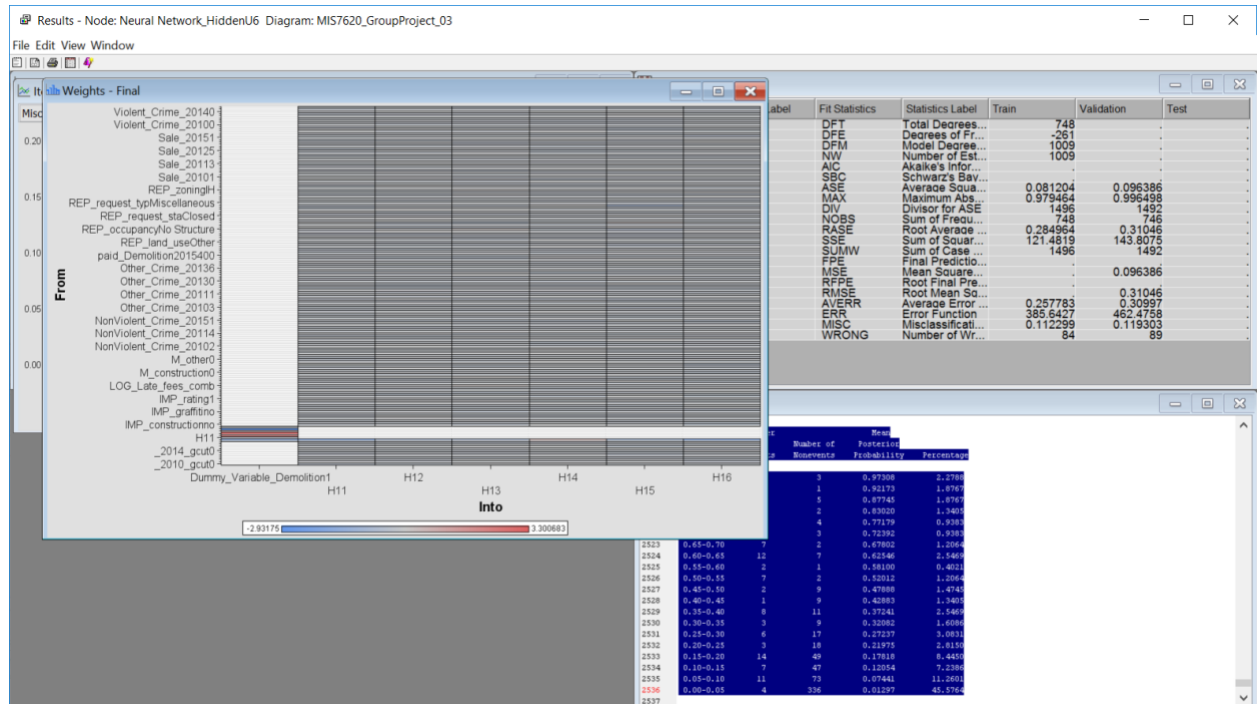


## 1. Minor diagrams



## 2. Neural network with six hidden nodes



### 3. Fit statistics for decision trees

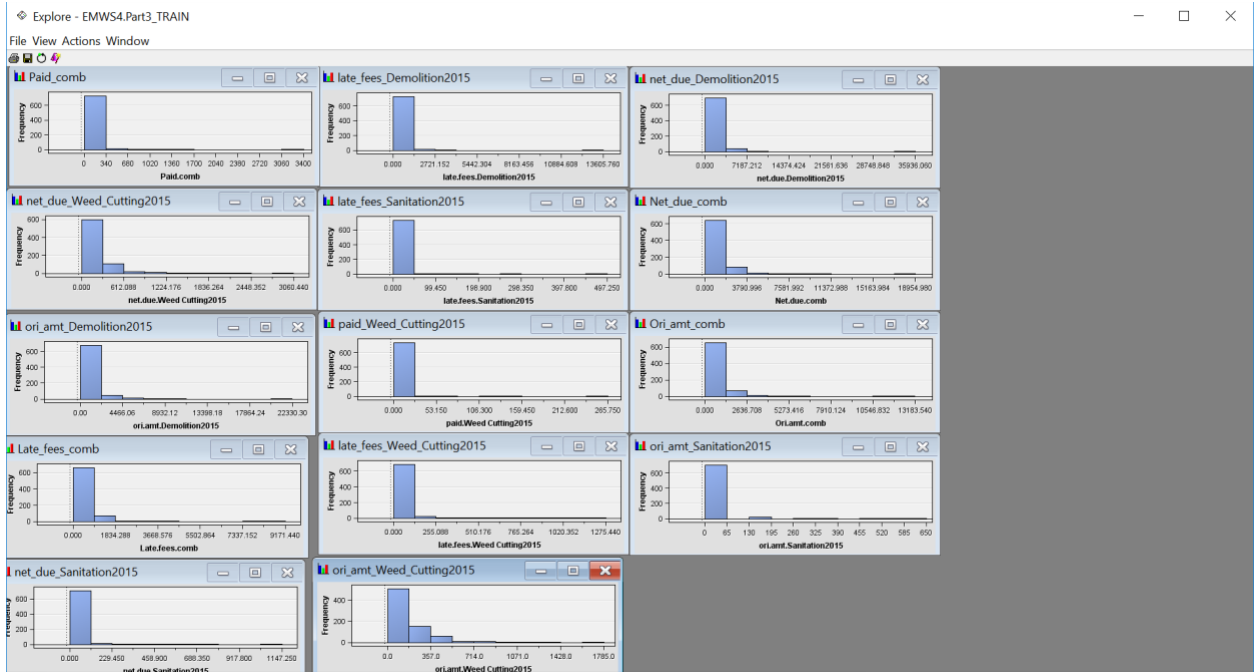
Results - Node: Model Comparison Diagram: MIS7620\_GroupProject\_03

File Edit View Window

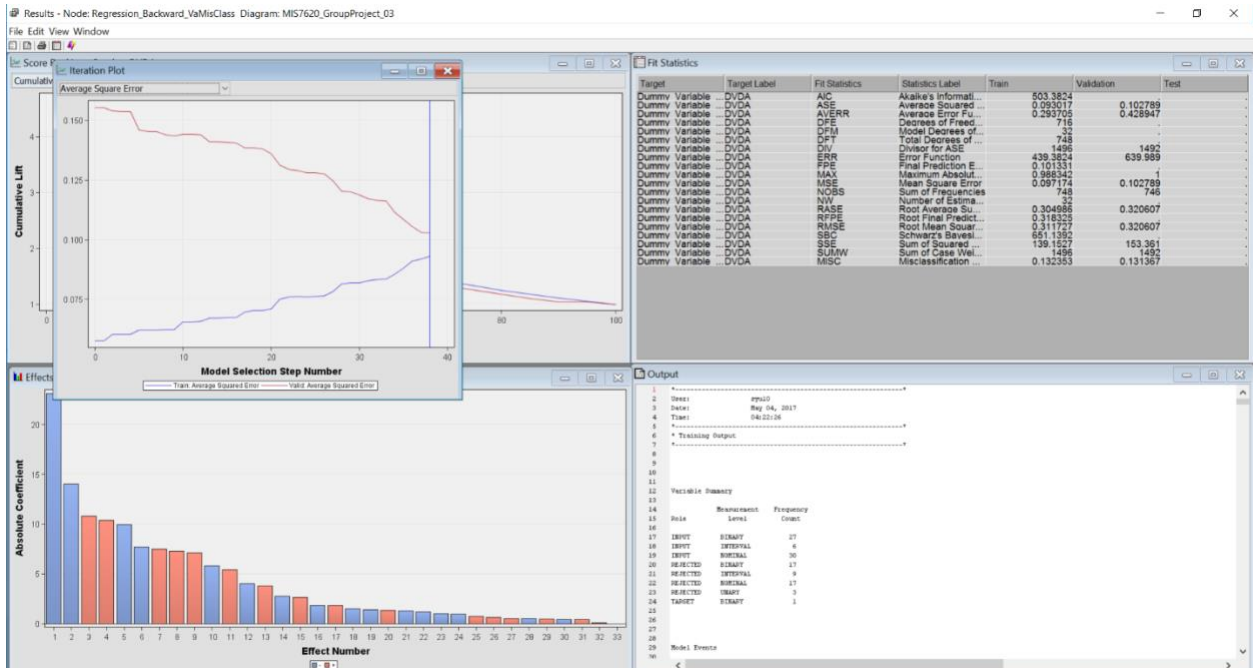
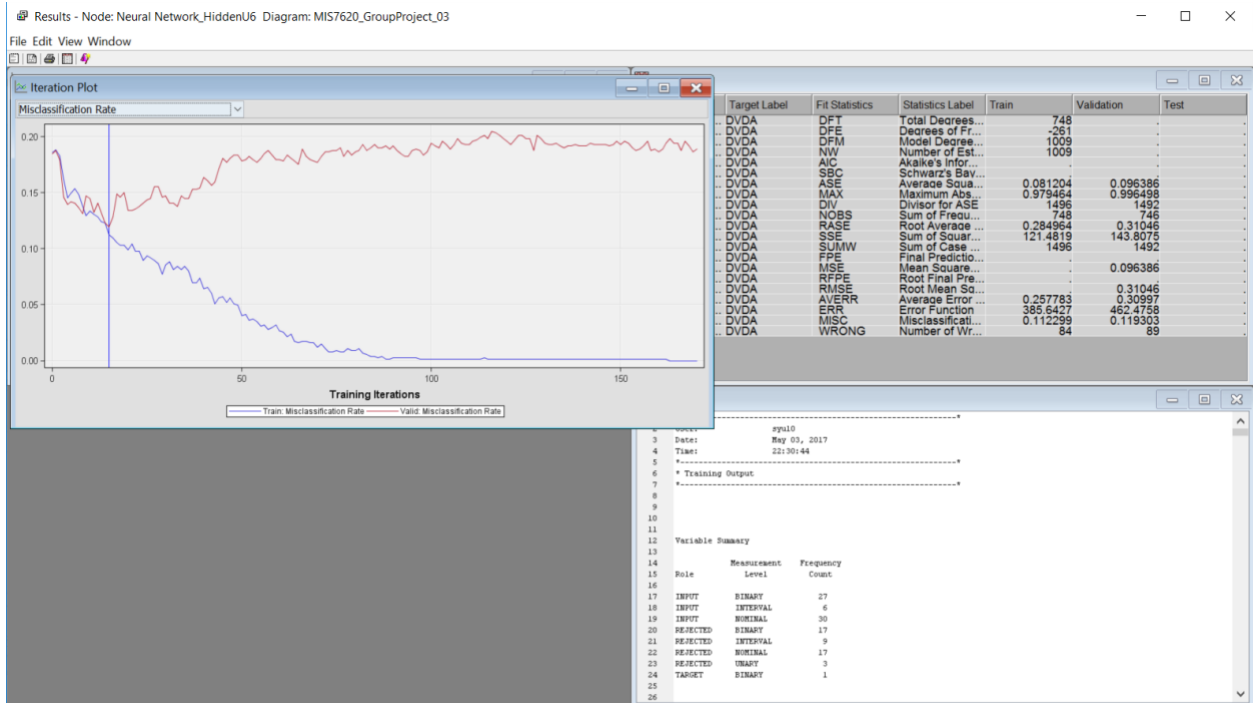
Fit Statistics

Select ed Model	Predecessor Node	Model Description	Target Label	Selection Criterion: Valid Misclassification Rate	Train Sum of Frequencies	Target Variable	Train Misclassification Rate	Train Maximum Absolute Error	Train Sum of Squared Errors	Train Average Squared Error	Train Root Average Squared Error	Train Divisor for ASE	Train Total Degrees of Freedom	Valid Sum of Frequencies	Valid Misclassification Rate	Valid Maximum Absolute Error	Valid Sum of Squared Errors	Valid Average Squared Error	Valid Root Average Squared Error	Valid Divisor for VASE	Train ROC Index	Train Gini Coefficient	Train Kolmogorov-Smirnov Statistic	Train Kolmogorov-Smirnov Probability Cutoff	Train Binomial Two-Way Kolmogorov-Smirnov Statistic
Y	Tree	DecisionTree1 Chisq 6MaxBranch	DVDA	0.128686	748	Dumm...	0.13369	0.9743	147.25	0.0984	0.3137	1496	748	746	0.1286	1.14822	0.0993	0.31519	1492	0.857	0.714	0.601	0.05	0.599	
Tree2	Tree2	DecisionTree2 Chisq 3MaxBranch	DVDA	0.128686	748	Dumm...	0.141711	0.8691	180.20	0.1204	0.3470	1496	748	746	0.1286	0.8691	1.6018	0.1073	0.3276	1492	0.666	0.333	0.323	0.14	0.316
Tree3	Tree3	DecisionTree3 Entropy 4MaxBranch	DVDA	0.131367	748	Dumm...	0.131016	0.9516	143.451	0.09589	0.3056	1496	748	746	0.1313	1.15384	0.1031	0.3211	1492	0.857	0.714	0.565	0.19	0.564	
Tree5	Tree5	DecisionTree5 Gini 6MaxBranch	DVDA	0.132708	748	Dumm...	0.11631	0.9672	138.245	0.09241	0.30399	1496	748	746	0.1327	1.15847	0.1052	0.3259	1492	0.864	0.727	0.578	0.16	0.575	
Tree4	Tree4	DecisionTree4 Entropy 3MaxBranch	DVDA	0.140751	748	Dumm...	0.120321	0.9625	133.71	0.0893	0.2969	1496	748	746	0.1407	1.16413	0.1100	0.3316	1492	0.891	0.781	0.62	0.13	0.613	

### 4. Transformation variables



## 5. Iteration plots for neural networks with six hidden units



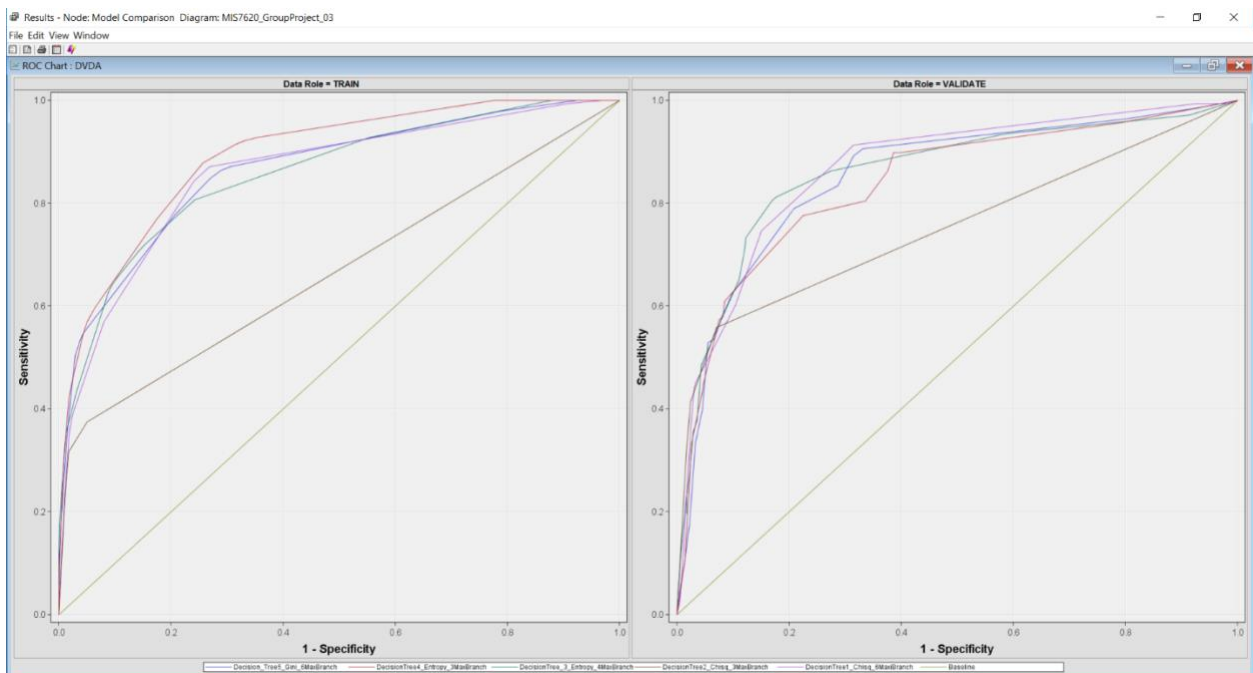
## 6. Nominal variable replacement

Replacement Editor-WORK.OUTCLASS

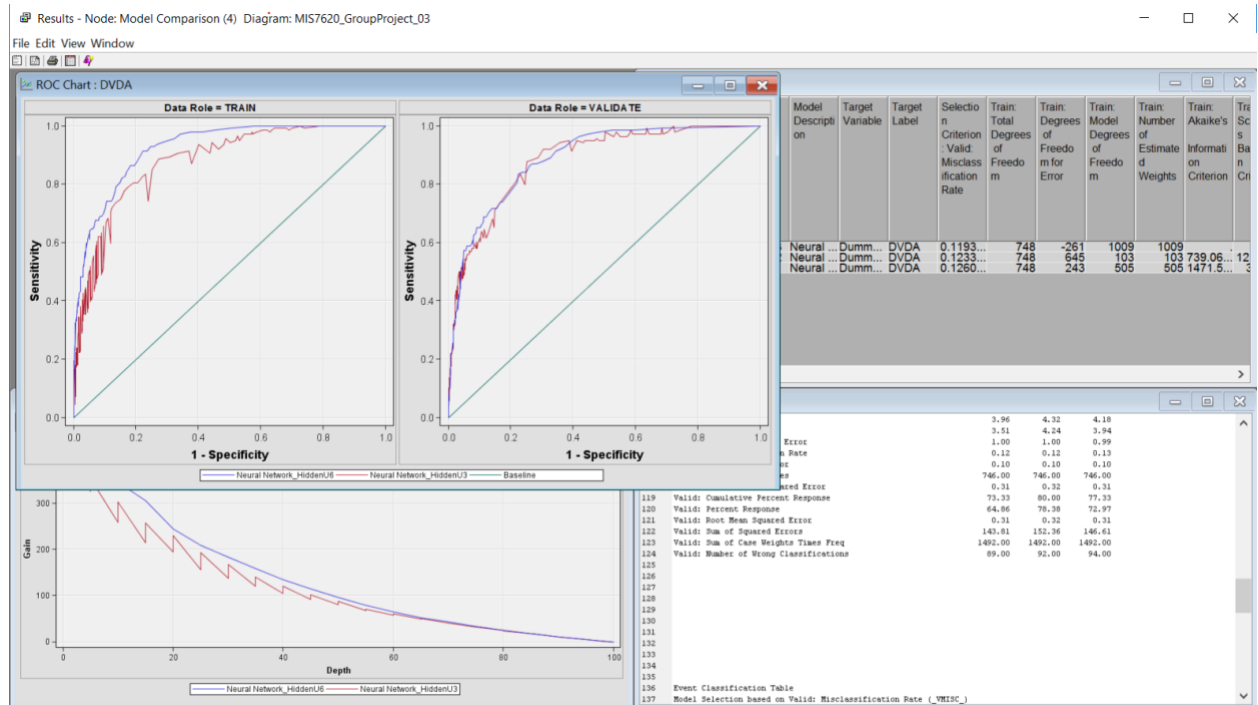
Variable	Formatted Value	Replacement Value	Frequency Count	Type	Character Unformatted Value	Numeric Value
request_type	CE-Weeds Occupied Property	Weeds	63C		CE-Weeds Occupied Property	.
request_type	CW-Weeds Vacant Houses	Weeds	9C		CW-Weeds Vacant Houses	.
request_type	CW-Weeds Vacant Lots	Weeds	2C		CW-Weeds Vacant Lots	.
zoning	RU-1	RU	196C		RU-1	.
zoning	RU-3	RU	30C		RU-3	.
zoning	RU-2	RU	4C		RU-2	.
zoning	R-6	R	402C		R-6	.
zoning	R-10	R	42C		R-10	.
zoning	R-8	R	37C		R-8	.
request_type	CE-Code Miscellaneous	Miscellaneous	226C		CE-Code Miscellaneous	.
request_type	SC-Mayors Action Center(MIS)	Miscellaneous	1C		SC-Mayors Action Center(MIS)	.
zoning	CMU-1	CMU	8C		CMU-1	.
zoning	CMU-3	CMU	6C		CMU-3	.
zoning	CMP-1	CMP	2C		CMP-1	.
request_type		UNKNOWN_	121C			.
request_status		UNKNOWN_	121C			.
occupancy		UNKNOWN_	72C			.
land_use		UNKNOWN_	79C			.
zoning	UNKNOWN_	DEFAULT_		C		.
Violent_Crime_2014	UNKNOWN_	DEFAULT_		N		.
Violent_Crime_2013	UNKNOWN_	DEFAULT_		N		.
Violent_Crime_2010	UNKNOWN_	DEFAULT_		N		.
vehicle	UNKNOWN_	DEFAULT_		C		.
trash	UNKNOWN_	DEFAULT_		C		.
Sale_2016	UNKNOWN_	DEFAULT_		N		.
Sale_2015	UNKNOWN_	DEFAULT_		N		.
Sale_2013	UNKNOWN_	DEFAULT_		N		.
Sale_2012	UNKNOWN_	DEFAULT_		N		.
Sale_2011	UNKNOWN_	DEFAULT_		N		.
Sale_2010	UNKNOWN_	DEFAULT_		N		.
request_type	UNKNOWN_	DEFAULT_		C		.

OK Cancel

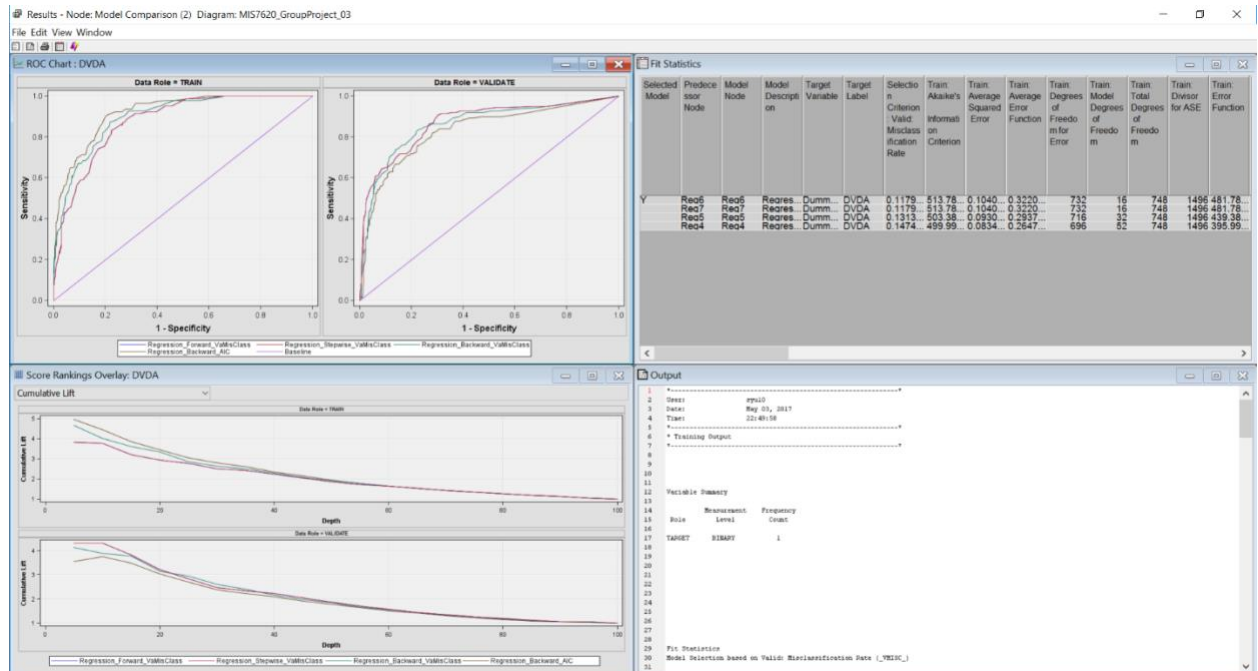
## 7. ROC chart for decision trees



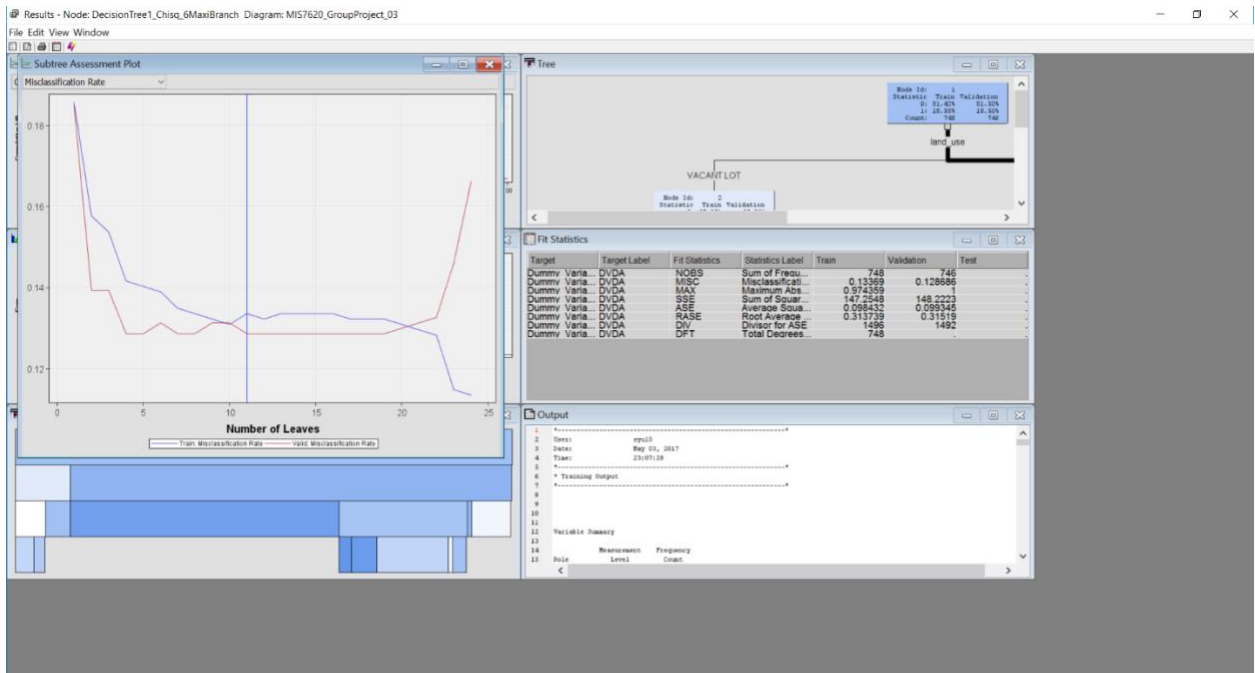
## 8. ROC comparison for neural network models



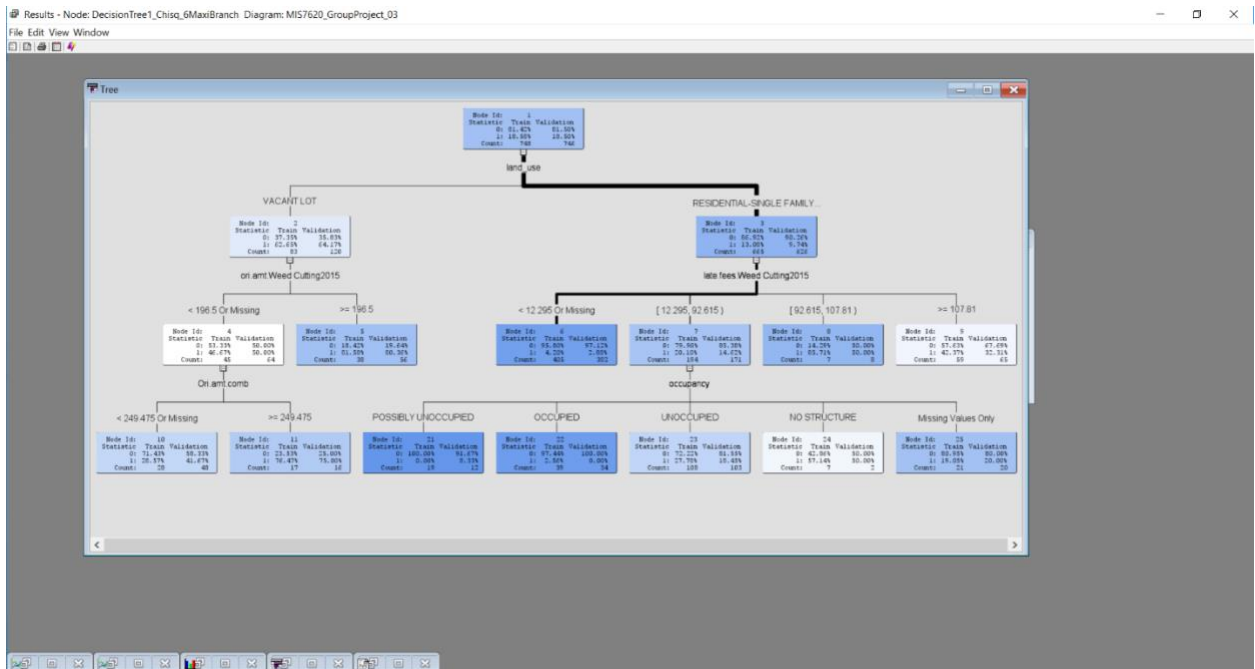
## 9. ROC comparison for regression models



## 10. Subtree assessment plot for a decision tree



## 11. The tree map of a decision tree





Variables - lds2

(none) ☐ not Equal to ☐

Columns: ☐ Label ☐ Mining ☐ Basic ☒ Statistics

Name	Role	Level	Report	Order	Drop	Lower Limit	Upper Limit	Number of Levels	Percent Missing	Minimum	Maximum	Mean	Standard Deviation
Dummv Variable Demolition	Target	Binary	No		No	-	-	2	0				
late fees Weed Cutting2015	Rejected	Interval	No		No	-	-	0	0	0	1569.71	56.00339	154.22
net due Sanitation2015	Rejected	Interval	No		No	-	-	0	0	0	1433.06	18.3661	99.8191
late fees Demolition2015	Rejected	Interval	No		No	-	-	0	0	0	13605.76	132.2446	558.0283
paid Weed Cutting2015	Rejected	Interval	No		No	-	-	0	0	0	514.37	1.728722	23.27518
ori amt Demolition2015	Rejected	Interval	No		No	-	-	0	0	0	22330.3	469.5871	1416.193
late fees Weed Cutting2015	Rejected	Interval	No		No	-	-	0	0	0	3862.71	216.3429	397.2262
Violent Crime 2011	Rejected	Nominal	No		No	-	-	6	0				
gdi1	Rejected	Interval	No		No	-	-	0	0	38018	38141	38113.85	8.52313
Sale 2014	Rejected	Nominal	No		No	-	-	6	0				
category	Rejected	Nominal	No		No	-	-	12	16.26506				
net due Demolition2015	Rejected	Interval	No		No	-	-	2	0	0	35936.06	595.6097	1852.304
Dummv Variable PaidDemolition	Rejected	Binary	No		No	-	-	2	0				
2016 acct	Rejected	Unary	No		No	-	-	1	0				
net due CBD2015	Rejected	Binary	No		No	-	-	2	0				
2010 acct	Rejected	Binary	No		No	-	-	2	0				
net due N2015	Rejected	Binary	No		No	-	-	2	0				
ParlDnspace	Rejected	Nominal	No		No	-	-	101	0				
shed	Rejected	Binary	No		No	-	-	2	7.697456				
Net due comb	Rejected	Interval	No		No	-	-	0	0	0	97300.6	887.1574	2823.623
paid CBD2015	Rejected	Unary	No		No	-	-	1	0				
paid N2015	Rejected	Unary	No		No	-	-	1	0				
tree	Rejected	Binary	No		No	-	-	2	7.697456				
porch	Rejected	Binary	No		No	-	-	2	7.697456				
Other Crime 2014	Rejected	Nominal	No		No	-	-	2	7.697456				
fences	Rejected	Binary	No		No	-	-	2	7.697456				
vegetation	Rejected	Binary	No		No	-	-	2	7.697456				
Dummv Variable PaidDemolition	Rejected	Binary	No		No	-	-	2	7.697456				
painting	Rejected	Binary	No		No	-	-	2	7.697456				
windows	Rejected	Binary	No		No	-	-	2	7.697456				
siding	Rejected	Binary	No		No	-	-	2	7.697456				
2011 acct	Rejected	Binary	No		No	-	-	2	7.697456				
rent	Rejected	Binary	No		No	-	-	2	7.697456				
boarded	Rejected	Binary	No		No	-	-	2	7.697456				
NonViolent Crime 2014	Rejected	Nominal	No		No	-	-	2	7.697456				
2011 acct	Rejected	Nominal	No		No	-	-	3	0				
entry	Rejected	Binary	No		No	-	-	2	7.697456				
division	Rejected	Nominal	No		No	-	-	2	16.26506				
department	Rejected	Nominal	No		No	-	-	5	16.26506				
roof	Rejected	Nominal	No		No	-	-	4	7.697456				
Violent Crime 2015	Rejected	Nominal	No		No	-	-	4	7.697456				
request priority	Rejected	Nominal	No		No	-	-	4	84.40428				
fire	Input	Nominal	No		No	-	-	4	7.697456				
Sale 2013	Input	Nominal	No		No	-	-	2	0				
Other Crime 201													

**Results - NodeStatExplore Diagram: MIS7620\_GroupProject\_02**

File Edit View Window

Chi-Square Plot

Chi-Square

Target = Demmy Variable Demolition  
Data Rule = TRAD

Input

Variable Summary

Rule	Measurement	Frequency	Count
17	INPUT	STRATEGY	30
18	INPUT	STRATEGY	6
19	INPUT	STRATEGY	37
20	REJECTED	STRATEGY	4
21	REJECTED	STRATEGY	7
22	REJECTED	STRATEGY	5
23	REJECTED	STRATEGY	5
24	TARGET	STRATEGY	1

Variable Lenth Summary  
(Available 500 observations printed)

Variable Worth

Target = Demmy Variable Demolition

Worth

Variable