

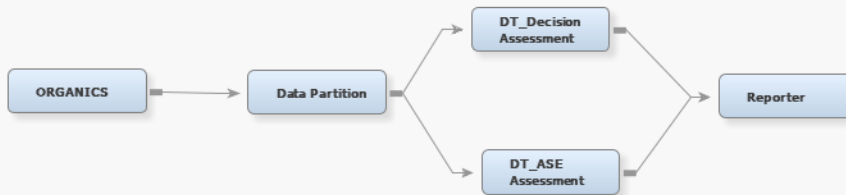
## SAS Enterprise Miner Report

User = u59378098  
Date = 16:27:29 September 20  
Project = Assignment1  
Diagram = Organics

Start Node = Report  
Node label = Reporter  
Nodes = ALL  
Showall = N

Format = PDF  
Style = LISTING

### SAS Enterprise Miner Report Process Flow Diagram



SAS Enterprise Miner Report

Node=ORGANICS  
Summary

Node id = Ids  
Node label = ORGANICS  
Meta path = Ids  
Notes =

Node=ORGANICS  
Properties

Property	Value	Default	Property	Value	Default	Property	Value	Default
Component	DataSource		DsCreatedBy	u59378098		NBytes	2229248	.
ApplyIntervalLevelLowerLimit	Y		DsId	organics		NCols	13	.
ApplyMaxClassLevels	Y		DsModifiedBy	u59378098		NObs	22223	.
ApplyMaxPercentMissing	Y		DsModifyDate	1947768995.5		NewTable		
CMeta	WORK.M0ATBO6B		DsSampleName			NewVariableRole	REJECT	
ComputeStatistics	N		DsSampleSize			OutputType	VIEW	
DBPassThrough	Y		DsSampleSizeType			Role	RAW	TRAIN
Data	AAEM.ORGANICS		DsScope	LOCAL		Sample	D	
DataSelection	DATASOURCE		IdentifyEmptyColumns	Y		SampleSizeObs	10000	
DataSource	organics		IntervalLowerLimit	20		SampleSizePercent	20	
DataSourceRole	RAW		Library	AAEM		SampleSizeType	PERCENT	
Description			MaxClassLevels	20		Scope	LOCAL	
DropMapVariables	Y		MaxPercentMissing	50		Segment		
DsCreateDate	1947768995.5		MetaAdvisor	BASIC		Table	ORGANICS	

Node=ORGANICS  
Data Attributes

Attribute	Value	Attribute	Value	Attribute	Value
Data Name	ORGANICS	Date Created	02Apr2012:18:02:36	Data Size	2229248
Data Type	DATA	Date Modified	02Apr2012:18:02:36	Role	RAW
Data Label		Number Rows	22223	Segment	
Engine	BASE	Number Columns	13	Data Library	AAEM

Node=ORGANICS  
Variables List

Name	Label	Role	Level	Type	Length	Format	Creator
DemAffl	Affluence Grade	INPUT	INTERVAL	N	8		
DemAge	Age	INPUT	INTERVAL	N	8		
DemCluster	Neighborhood Cluster-55 Level	REJECTED	NOMINAL	C	2		
DemClusterGroup	Neighborhood Cluster-7 Level	INPUT	NOMINAL	C	1		
DemGender	Gender	INPUT	NOMINAL	C	1		
DemReg	Geographic Region	INPUT	NOMINAL	C	10		
DemTVReg	Television Region	INPUT	NOMINAL	C	12		
ID	Customer Loyalty ID	ID	NOMINAL	C	10		
PromClass	Loyalty Status	INPUT	NOMINAL	C	8		
PromSpend	Total Spend	INPUT	INTERVAL	N	8		
PromTime	Loyalty Card Tenure	INPUT	INTERVAL	N	8		

Name	Label	Role	Level	Type	Length	Format	Creator
TargetAmt	Organics Purchase Count	REJECTED	INTERVAL	N	8		
TargetBuy	Organics Purchase Indicator	TARGET	BINARY	N	8		

SAS Enterprise Miner Report

Node=Data Partition  
Summary

Node id = Part  
Node label = Data Partition  
Meta path = Ids => Part  
Notes =

Node=Data Partition  
Properties

Property	Value	Default	Property	Value	Default	Property	Value	Default
Component	Partition		Method	DEFAULT		TestPct	0	30
ClassDistribution	Y		OutputType	DATA		TrainPct	50	40
IntervalDistribution	Y		RandomSeed	12345		ValidatePct	50	30

Node=Data Partition  
Variable Summary

Role	Level	Frequency Count	Name
TARGET	BINARY	1	TargetBuy
REJECTED	INTERVAL	1	TargetAmt
REJECTED	NOMINAL	1	DemCluster
INPUT	INTERVAL	4	DemAffl DemAge PromSpend PromTime
INPUT	NOMINAL	5	DemClusterGroup DemGender DemReg DemTVReg PromClass
ID	NOMINAL	1	ID

SAS Enterprise Miner Report

Node=DT\_Decision Assessment  
Summary

Node id = Tree  
Node label = DT\_Decision Assessment  
Meta path = Ids => Part => Tree  
Notes =

Node=DT\_Decision Assessment  
Properties

Property	Value	Default	Property	Value	Default	Property	Value	Default
Component	DecisionTree		Kass	Y		Pred	N	
AVG	Y		KassApply	BEFORE		Predict	Y	
AssessMeasure	PROFIT/LOSS		LeafSize	5		ProfitLoss	NONE	
AssessPercentage	0.25		Leafid	Y		RASE	N	
CV	N		Maxbranch	2		SampleMethod	RANDOM	
CVNlter	10		Maxdepth	6		SampleSeed	12345	
CVRepeat	1		MinCatSize	5		SampleSize	10000	
CVSeed	12345		MissingValue	USEINSEARCH		ShowNodeId	Y	
ClassColorBy	PERCENTCORRECT		NSubtree	1		ShowValid	Y	
Count	Y		NodeRole	SEGMENT		SigLevel	0.2	
CreateSample	DEFAULT		NodeSample	20000		SplitPrecision	4	
Criterion	DEFAULT		NominalCriterion	PROBCHISQ		Splitsize	.	
Depth	Y		Nrules	5		Subtree	ASSESSMENT	
Dummy	N		Nsurrs	0		Target	ALL	
Exhaustive	5000		NumInputs	1		ToolType	MODEL	
Freeze	N		NumSingleImp	5		TrainMode	BATCH	
ImportModel	N		ObsImportance	N		UseDecision	N	
ImportedTreeData			OrdinalCriterion	ENTROPY		UseMultipleTarget	N	
Inputs	N		PercentCorrect	N		UsePriors	N	
IntColorBy	AVG		Performance	DISK		UseVarOnce	N	
IntervalCriterion	PROBF		Precision	4		VarSelection	Y	

Node=DT\_Decision Assessment  
Variable Summary

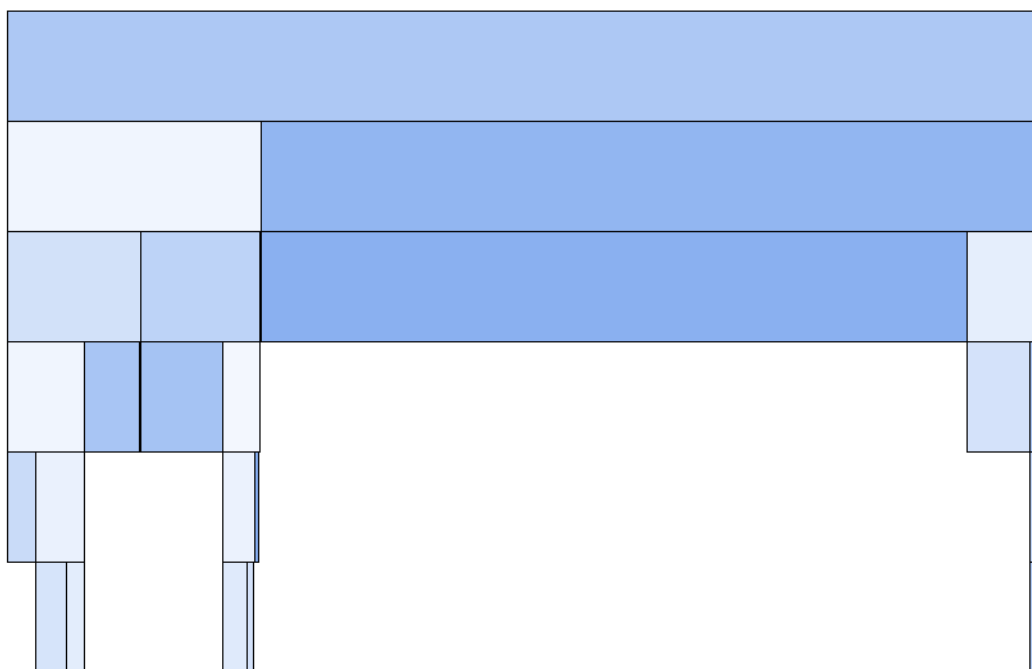
Role	Level	Frequency Count	Name
TARGET	BINARY	1	TargetBuy
INPUT	INTERVAL	4	DemAffl DemAge PromSpend PromTime
INPUT	NOMINAL	5	DemClusterGroup DemGender DemReg DemTVReg PromClass
ID	INTERVAL	1	_dataobs_
ID	NOMINAL	1	ID

Node=DT\_Decision Assessment  
Model Fit Statistics

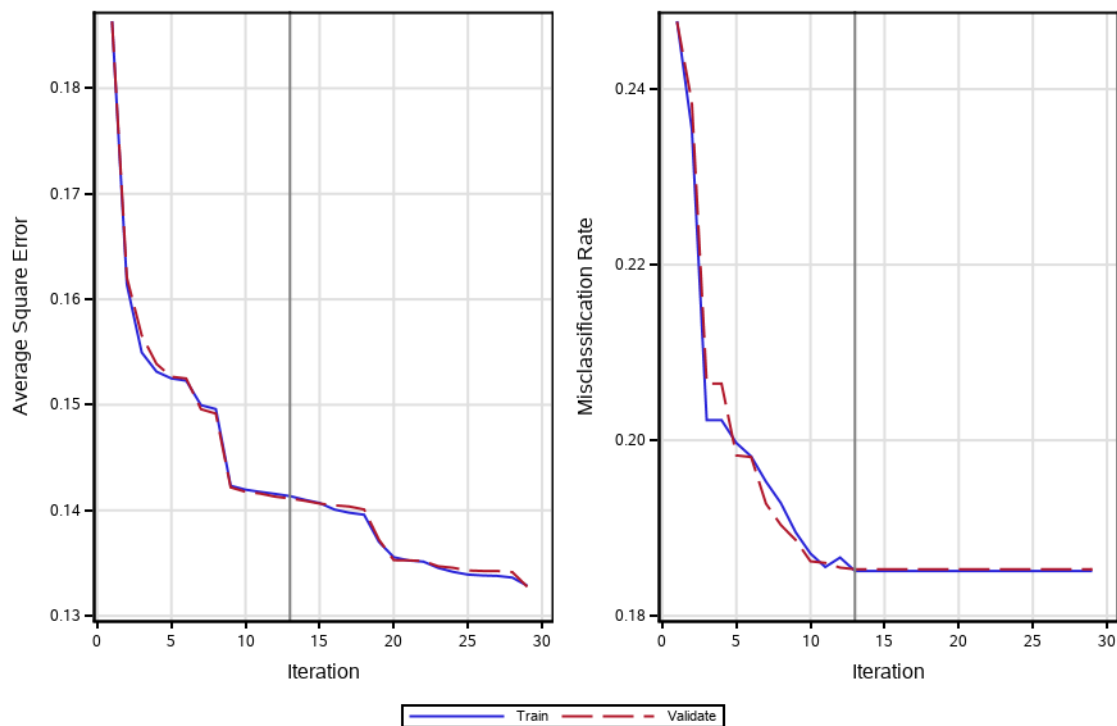
SAS Enterprise Miner Report  
Node=DT\_Decision Assessment  
Tree Diagram

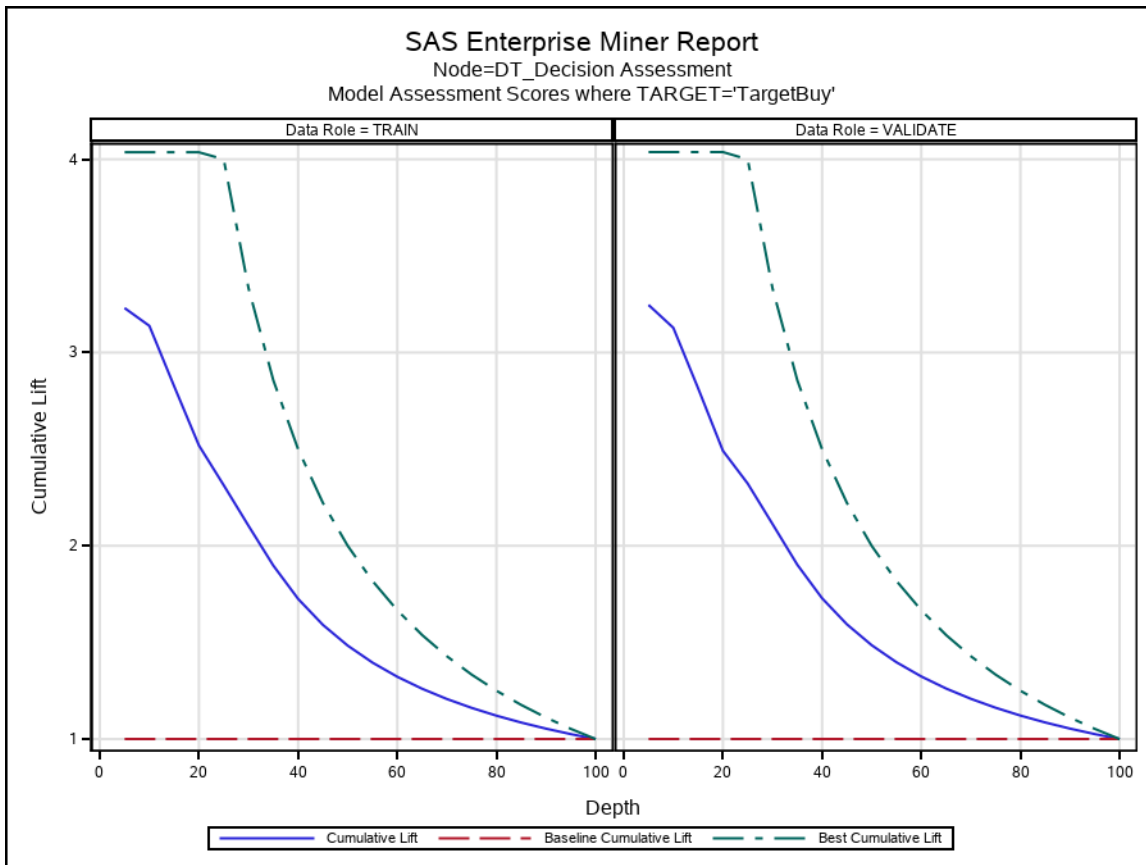
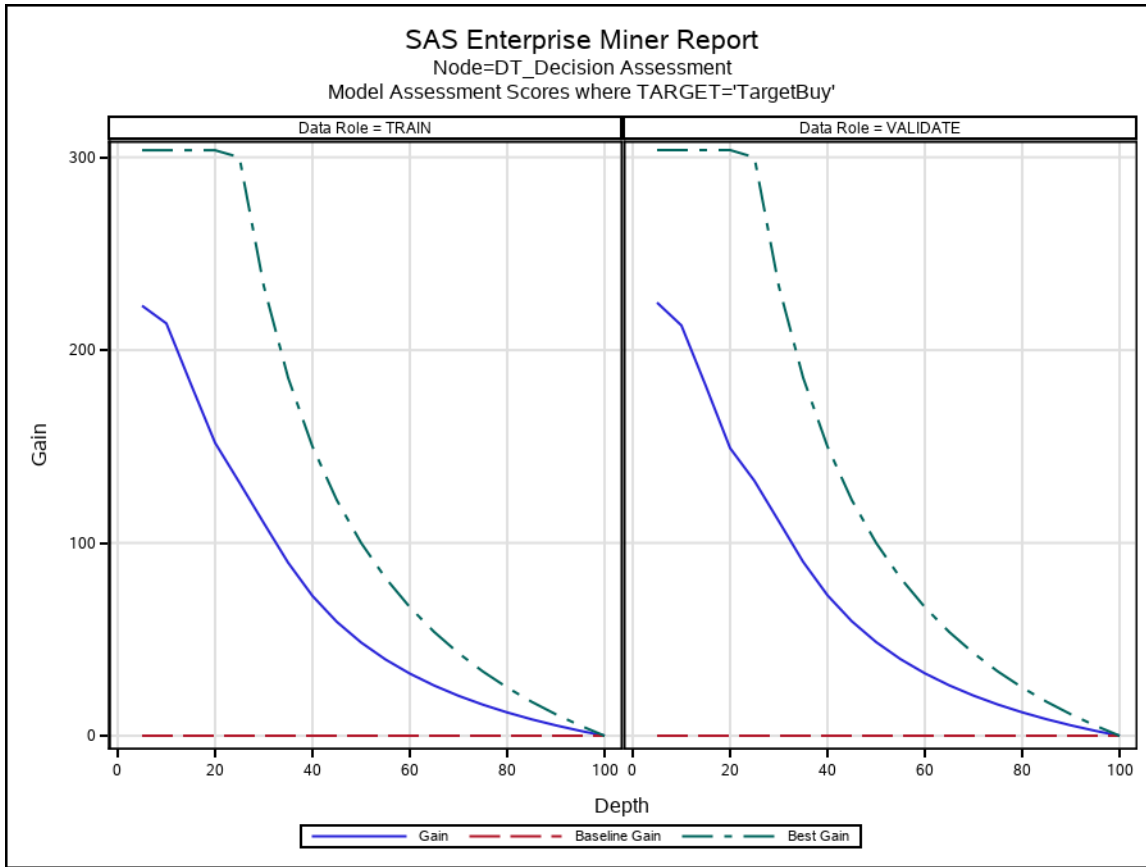
```
graph TD
    Root["N: 11112 1111"] -->|Age| L1L["< 44.5  
N: 2/23 2/66"]
    Root -->|Age| L1R[">= 44.5 Or ...  
N: 8389 8345"]
    L1L -->|Affluence ...| L2L1["< 9.5  
N: 1436 14/6"]
    L1L -->|Affluence ...| L2L2[">= 9.5 Or ...  
N: 128/ 1290"]
    L1R -->|Affluence ...| L2R1["< 12.5 Or ...  
N: 7581 7553"]
    L1R -->|Affluence ...| L2R2[">= 12.5  
N: 808 792"]
    L2L1 -->|Gender| L3L11["F  
N: 836 883"]
    L2L1 -->|Gender| L3L12["U, M Or Mis...  
N: 600 593"]
    L2L2 -->|Gender| L3L21["F  
N: 888 857"]
    L2L2 -->|Gender| L3L22["U, M Or Mis...  
N: 399 433"]
    L2R1 -->|Affluence ...| L3R11["< 16.5 Or ...  
N: 686 686"]
    L2R1 -->|Affluence ...| L3R12[">= 16.5  
N: 122 106"]
    L2R2 -->|Affluence ...| L3R21["< 6.5  
N: 305 330"]
    L2R2 -->|Affluence ...| L3R22[">= 6.5 Or ...  
N: 531 553"]
    L3L11 -->|Age| L4L11["< 6.5  
N: 305 330"]
    L3L11 -->|Age| L4L12[">= 6.5 Or ...  
N: 531 553"]
    L3L21 -->|Affluence ...| L4L21["< 14.5 Or ...  
N: 345 359"]
    L3L21 -->|Affluence ...| L4L22[">= 14.5  
N: 54 74"]
    L3L22 -->|Affluence ...| L4L23["< 19.5 Or ...  
N: 91 81"]
    L3L22 -->|Affluence ...| L4L24[">= 19.5  
N: 31 25"]
```

SAS Enterprise Miner Report  
Node=DT\_Decision Assessment  
Treemap



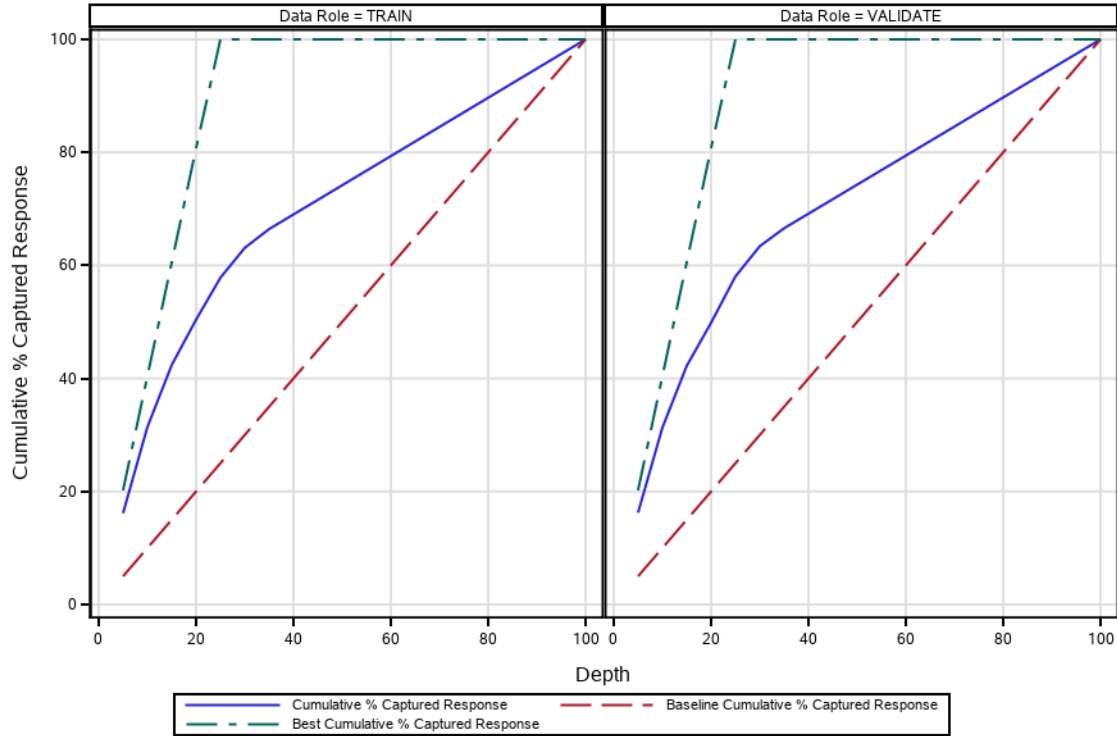
SAS Enterprise Miner Report  
Node=DT\_Decision Assessment  
Model Iteration Plots



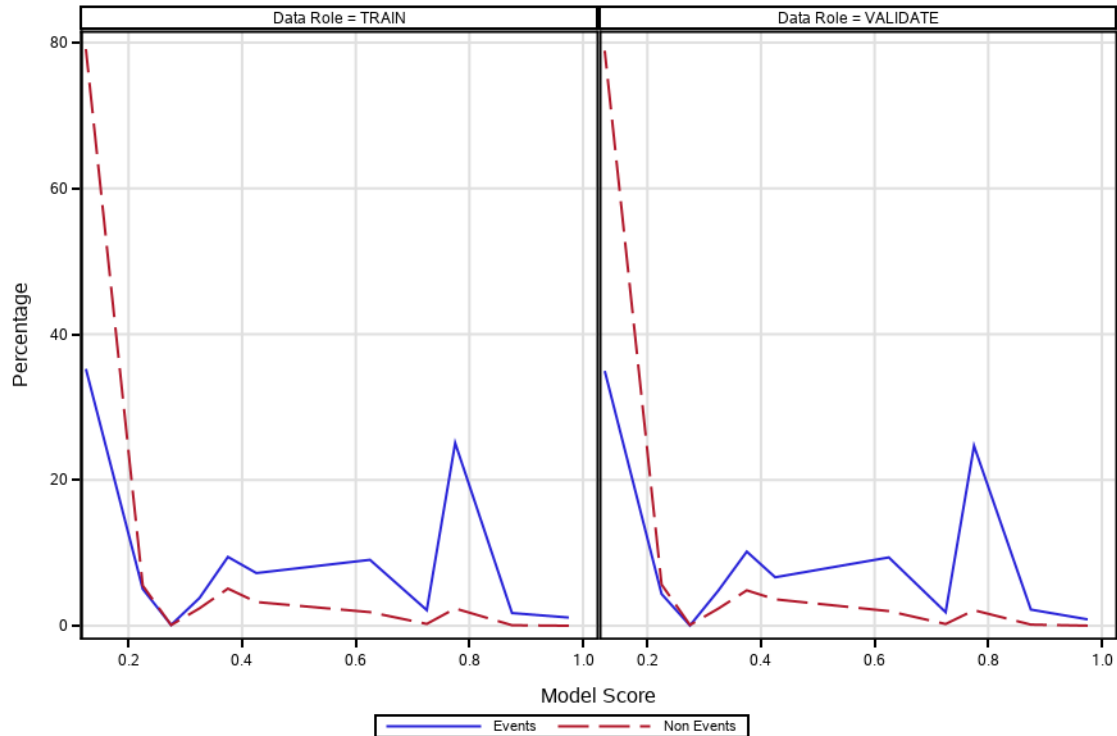




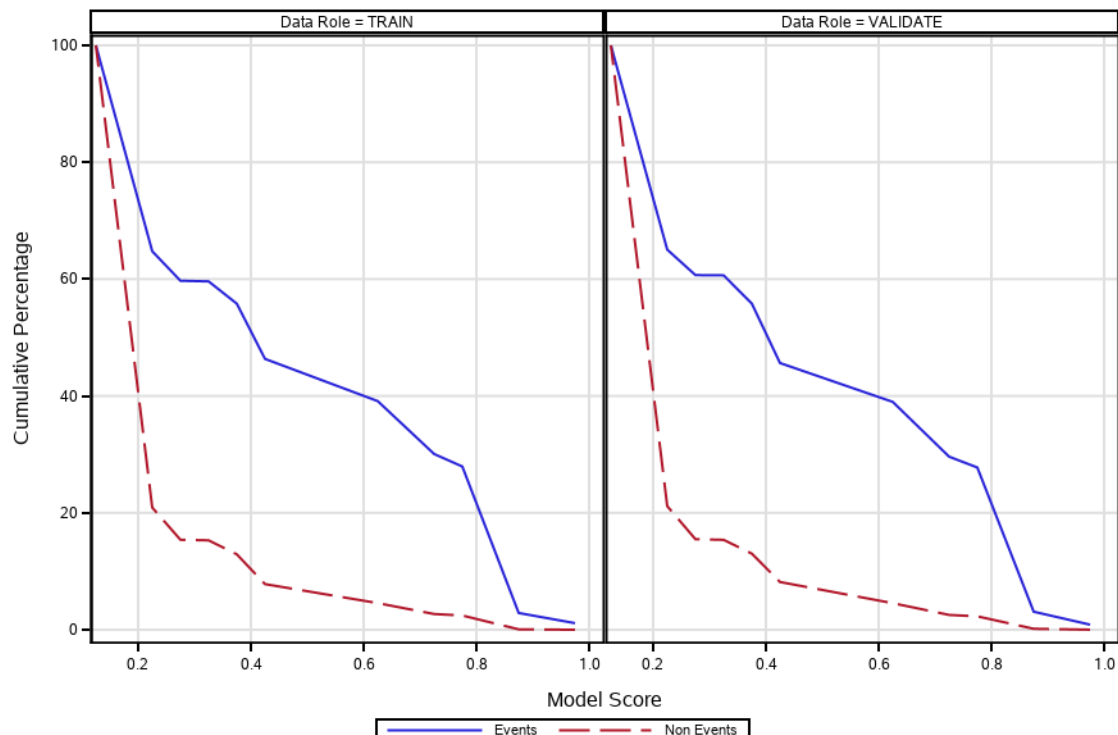
SAS Enterprise Miner Report  
Node=DT\_Decision Assessment  
Model Assessment Scores where TARGET='TargetBuy'



SAS Enterprise Miner Report  
Node=DT\_Decision Assessment  
Score Distributions where TARGET='TargetBuy'



**SAS Enterprise Miner Report**  
Node=DT\_Decision Assessment  
Score Distributions where TARGET='TargetBuy'



**Node=DT\_Decision Assessment**  
**Score Distributions**

Target Variable=TargetBuy Data Role=TRAIN

Posterior Probability Range	Number of Events	Percentage of Events	Percentage of Nonevents	Cumulative Percentage of Events	Cumulative Percentage of Nonevents
0.95-1.00	31	1.1260	0.0000	1.126	0.000
0.85-0.90	48	1.7436	0.0718	2.870	0.072
0.75-0.80	690	25.0636	2.3687	27.933	2.440
0.70-0.75	59	2.1431	0.2512	30.076	2.692
0.60-0.65	249	9.0447	1.8663	39.121	4.558
0.40-0.45	199	7.2285	3.2540	46.349	7.812
0.35-0.40	260	9.4442	5.0963	55.794	12.908
0.30-0.35	105	3.8140	2.3926	59.608	15.301
0.25-0.30	3	0.1090	0.0957	59.717	15.397
0.20-0.25	139	5.0490	5.5150	64.766	20.912
0.10-0.15	970	35.2343	79.0884	100.000	100.000

Target Variable=TargetBuy Data Role=VALIDATE

Posterior Probability Range	Number of Events	Percentage of Events	Percentage of Nonevents	Cumulative Percentage of Events	Cumulative Percentage of Nonevents
0.95-1.00	24	0.8721	0.0120	0.872	0.012
0.85-0.90	61	2.2166	0.1555	3.089	0.167
0.75-0.80	679	24.6730	2.1294	27.762	2.297
0.70-0.75	51	1.8532	0.2393	29.615	2.536
0.60-0.65	258	9.3750	2.0098	38.990	4.546
0.40-0.45	183	6.6497	3.6248	45.640	8.171

Target Variable=TargetBuy Data Role=VALIDATE

Posterior Probability Range	Number of Events	Percentage of Events	Percentage of Nonevents	Cumulative Percentage of Events	Cumulative Percentage of Nonevents
0.35-0.40	280	10.1744	4.8570	55.814	13.028
0.30-0.35	133	4.8328	2.3567	60.647	15.385
0.25-0.30	1	0.0363	0.1077	60.683	15.492
0.20-0.25	120	4.3605	5.6586	65.044	21.151
0.10-0.15	962	34.9564	78.8491	100.000	100.000

## SAS Enterprise Miner Report

### Node=DT\_ASE Assessment Summary

Node id = Tree2  
Node label = DT\_ASE Assessment  
Meta path = Ids => Part => Tree2  
Notes =

### Node=DT\_ASE Assessment Properties

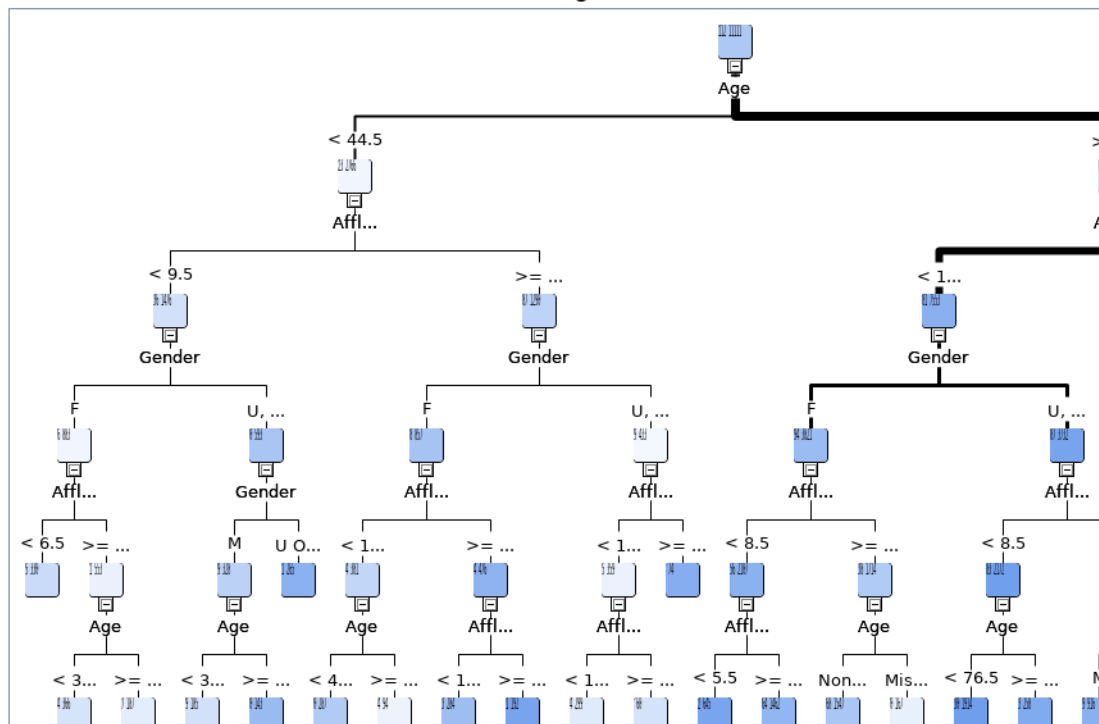
Property	Value	Default	Property	Value	Default	Property	Value	Default
Component	DecisionTree		Kass	Y		Pred	N	
AVG	Y		KassApply	BEFORE		Predict	Y	
AssessMeasure	ASE	PROFIT/LOSS	LeafSize	5		ProfitLoss	NONE	
AssessPercentage	0.25		Leafid	Y		RASE	N	
CV	N		Maxbranch	2		SampleMethod	RANDOM	
CVNIter	10		Maxdepth	6		SampleSeed	12345	
CVRepeat	1		MinCatSize	5		SampleSize	10000	
CVSeed	12345		MissingValue	USEINSEARCH		ShowNodeId	Y	
ClassColorBy	PERCENTCORRECT		NSubtree	1		ShowValid	Y	
Count	Y		NodeRole	SEGMENT		SigLevel	0.2	
CreateSample	DEFAULT		NodeSample	20000		SplitPrecision	4	
Criterion	DEFAULT		NominalCriterion	PROBCHISQ		Splitsize	.	
Depth	Y		Nrules	5		Subtree	ASSESSMENT	
Dummy	N		Nsurrs	0		Target	ALL	
Exhaustive	5000		NumInputs	1		ToolType	MODEL	
Freeze	N		NumSingleImp	5		TrainMode	BATCH	
ImportModel	N		ObsImportance	N		UseDecision	N	
ImportedTreeData			OrdinalCriterion	ENTROPY		UseMultipleTarget	N	
Inputs	N		PercentCorrect	N		UsePriors	N	
IntColorBy	AVG		Performance	DISK		UseVarOnce	N	
IntervalCriterion	PROBF		Precision	4		VarSelection	Y	

### Node=DT\_ASE Assessment Variable Summary

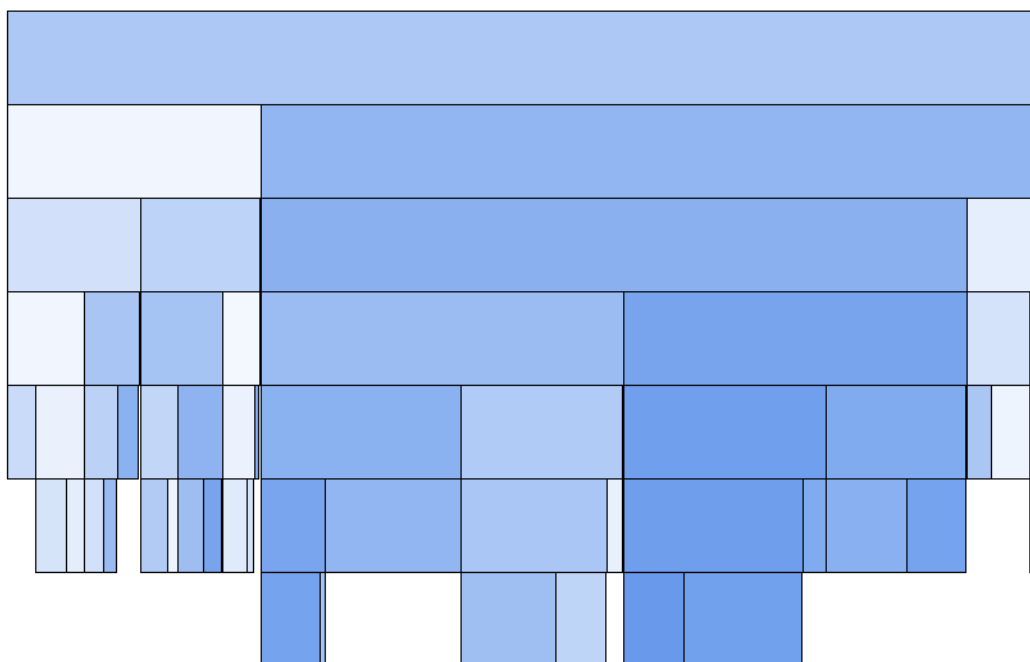
Role	Level	Frequency Count	Name
TARGET	BINARY	1	TargetBuy
INPUT	INTERVAL	4	DemAffl DemAge PromSpend PromTime
INPUT	NOMINAL	5	DemClusterGroup DemGender DemReg DemTVReg PromClass
ID	INTERVAL	1	_dataobs_
ID	NOMINAL	1	ID

### Node=DT\_ASE Assessment Model Fit Statistics

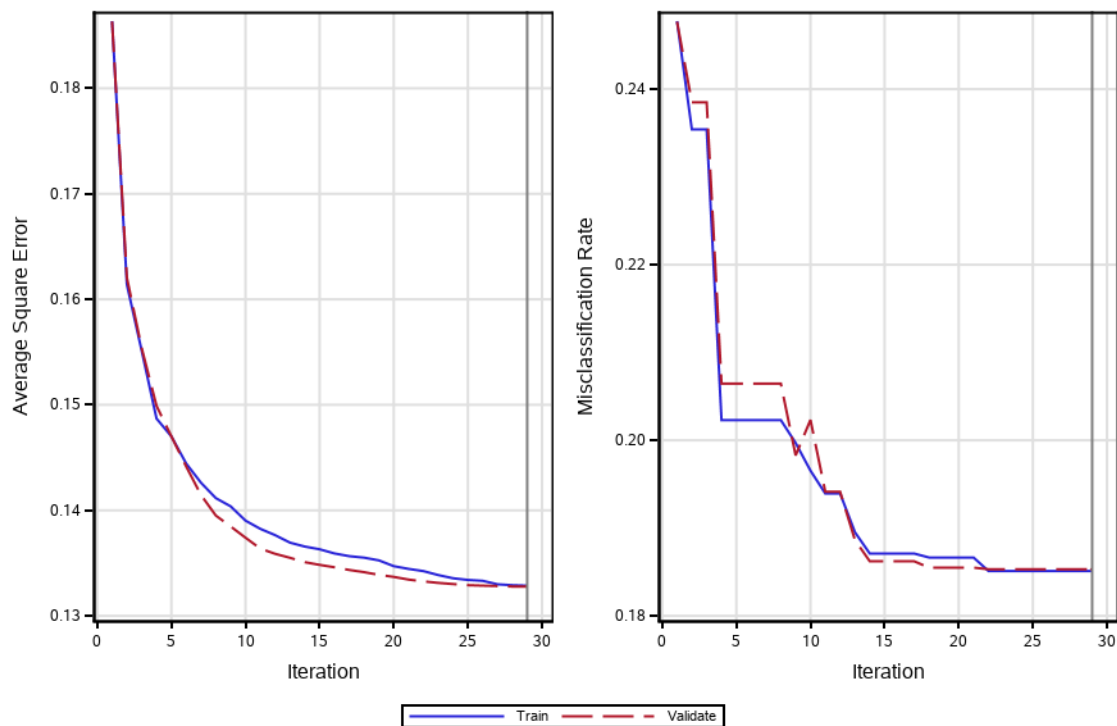
Label of Statistic	Train	Validation	Test
Sum of Frequencies	11112.00	11111.00	.
Misclassification Rate	0.19	0.19	.
Maximum Absolute Error	0.99	1.00	.
Sum of Squared Errors	2952.71	2950.48	.
Average Squared Error	0.13	0.13	.
Root Average Squared Error	0.36	0.36	.
Divisor for ASE	22224.00	22222.00	.
Total Degrees of Freedom	11112.00	.	.



SAS Enterprise Miner Report  
Node=DT\_ASE Assessment  
Treemap



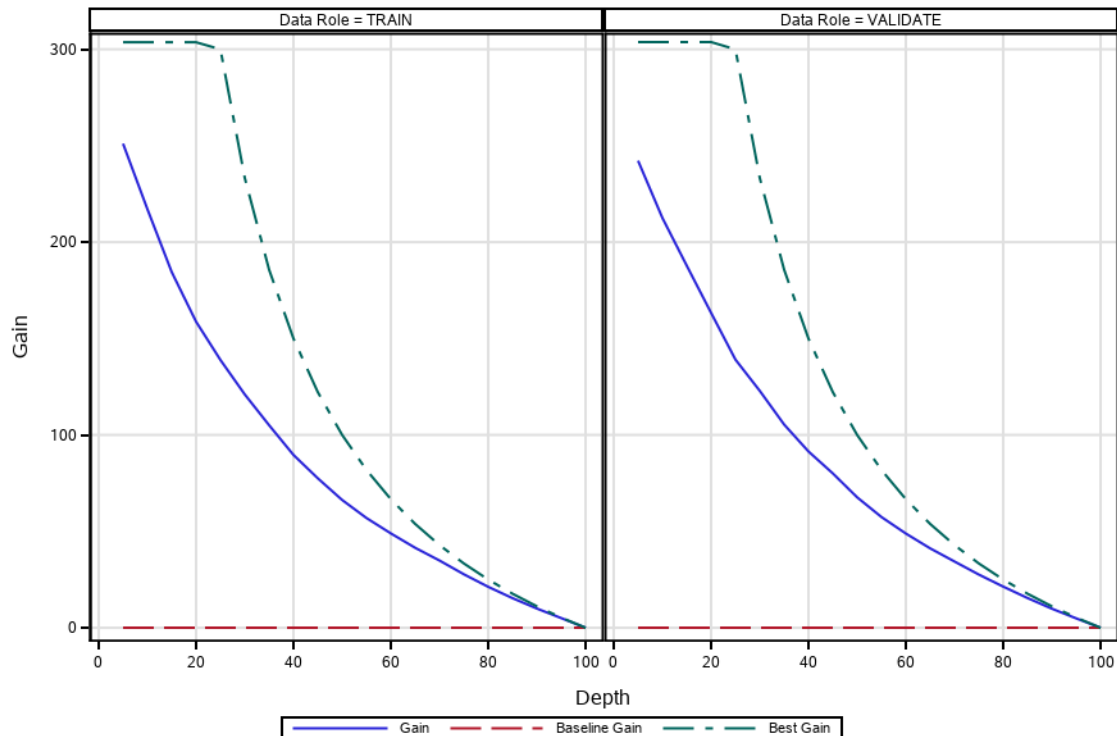
SAS Enterprise Miner Report  
Node=DT\_ASE Assessment  
Model Iteration Plots



## SAS Enterprise Miner Report

Node=DT\_ASE Assessment

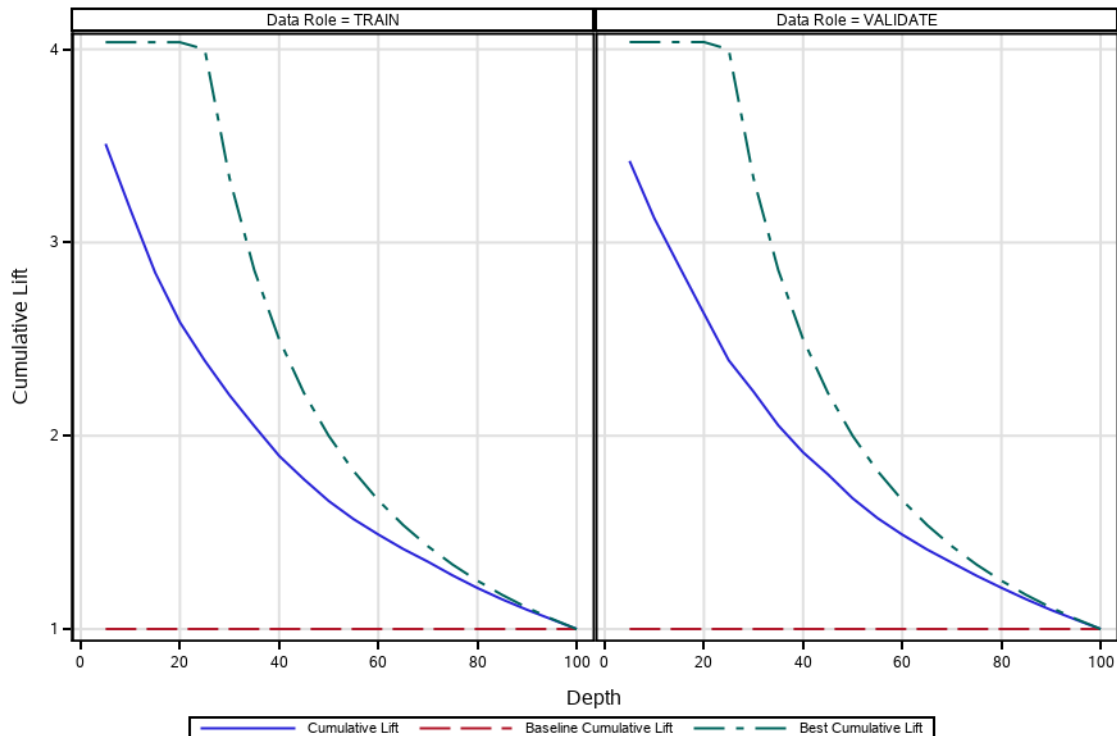
Model Assessment Scores where TARGET='TargetBuy'

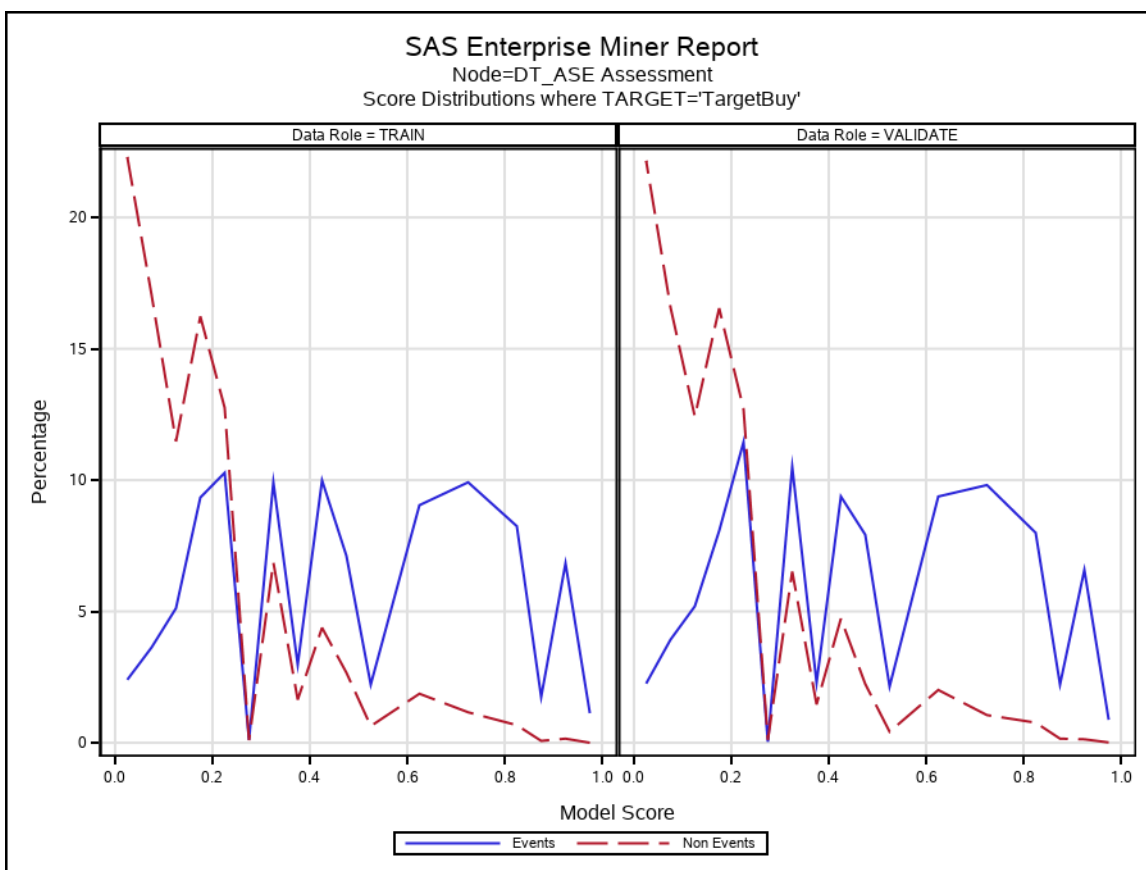
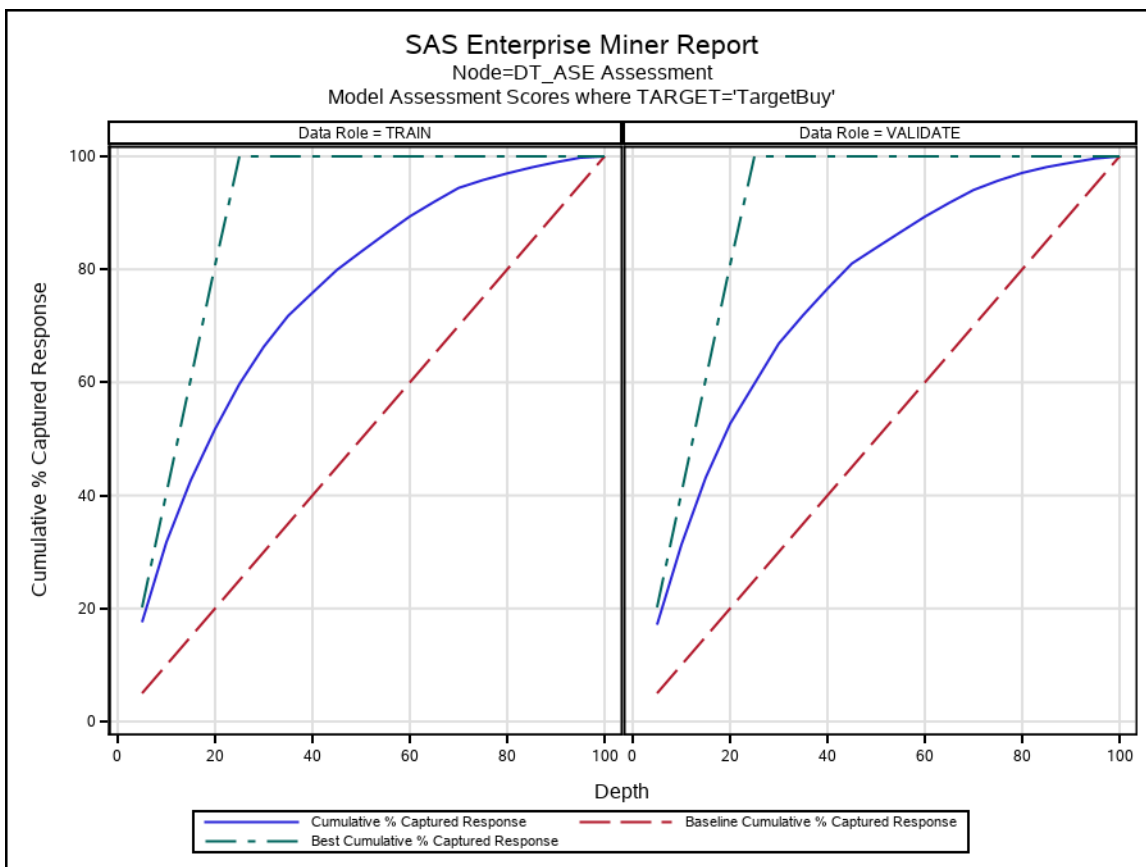


## SAS Enterprise Miner Report

Node=DT\_ASE Assessment

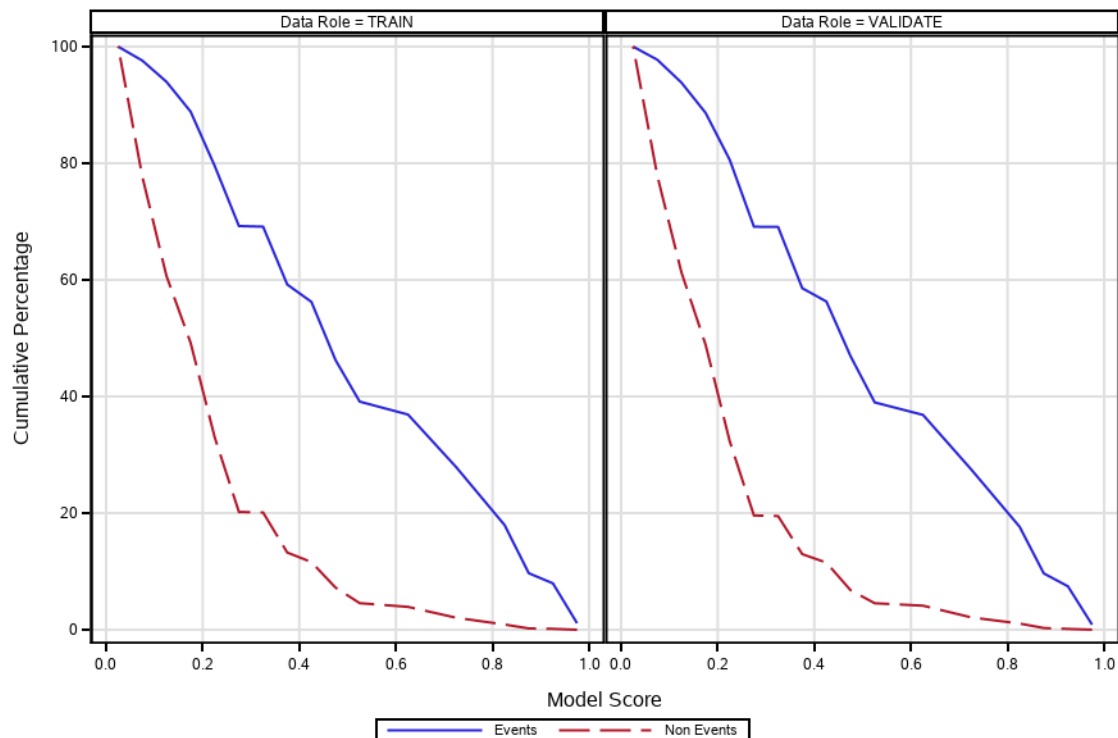
Model Assessment Scores where TARGET='TargetBuy'







**SAS Enterprise Miner Report**  
 Node=DT\_ASE Assessment  
 Score Distributions where TARGET='TargetBuy'



**Node=DT\_ASE Assessment**  
**Score Distributions**

Target Variable=TargetBuy Data Role=TRAIN

Posterior Probability Range	Number of Events	Percentage of Events	Percentage of Nonevents	Cumulative Percentage of Events	Cumulative Percentage of Nonevents
0.95-1.00	31	1.1260	0.0000	1.126	0.000
0.90-0.95	188	6.8289	0.1555	7.955	0.156
0.85-0.90	48	1.7436	0.0718	9.699	0.227
0.80-0.85	227	8.2456	0.6699	17.944	0.897
0.70-0.75	273	9.9165	1.1604	27.861	2.058
0.60-0.65	249	9.0447	1.8663	36.905	3.924
0.50-0.55	61	2.2158	0.6340	39.121	4.558
0.45-0.50	196	7.1195	2.6678	46.240	7.226
0.40-0.45	275	9.9891	4.3785	56.230	11.604
0.35-0.40	82	2.9786	1.6390	59.208	13.243
0.30-0.35	273	9.9165	6.8669	69.125	20.110
0.25-0.30	3	0.1090	0.0957	69.234	20.206
0.20-0.25	283	10.2797	12.7527	79.513	32.958
0.15-0.20	257	9.3353	16.2340	88.849	49.192
0.10-0.15	141	5.1217	11.4727	93.970	60.665
0.05-0.10	100	3.6324	17.0355	97.603	77.701
0.00-0.05	66	2.3974	22.2993	100.000	100.000

Target Variable=TargetBuy Data Role=VALIDATE

Posterior Probability Range	Number of Events	Percentage of Events	Percentage of Nonevents	Cumulative Percentage of Events	Cumulative Percentage of Nonevents
0.95-1.00	24	0.8721	0.0120	0.872	0.012
0.90-0.95	181	6.5770	0.1316	7.449	0.144
0.85-0.90	61	2.2166	0.1555	9.666	0.299
0.80-0.85	220	7.9942	0.7656	17.660	1.065
0.70-0.75	270	9.8110	1.0528	27.471	2.117
0.60-0.65	258	9.3750	2.0098	36.846	4.127
0.50-0.55	59	2.1439	0.4187	38.990	4.546
0.45-0.50	218	7.9215	2.2371	46.911	6.783
0.40-0.45	258	9.3750	4.7254	56.286	11.509
0.35-0.40	63	2.2892	1.4595	58.576	12.968
0.30-0.35	289	10.5015	6.5199	69.077	19.488
0.25-0.30	1	0.0363	0.1077	69.113	19.596
0.20-0.25	315	11.4462	12.7049	80.560	32.301
0.15-0.20	222	8.0669	16.5450	88.626	48.846
0.10-0.15	143	5.1962	12.4178	93.823	61.263
0.05-0.10	108	3.9244	16.5809	97.747	77.844
0.00-0.05	62	2.2529	22.1558	100.000	100.000

End of Report