



Demo

"Model Comparison" Results

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Contents

| | |
|---|----|
| Model Comparison | 3 |
| Properties | 5 |
| Cumulative Lift | 6 |
| Lift | 7 |
| Gain | 8 |
| Captured Response Percentage | 9 |
| Cumulative Captured Response Percentage | 10 |
| Response Percentage | 11 |
| Cumulative Response Percentage | 12 |
| ROC | 13 |
| Accuracy | 14 |
| F1 Score | 15 |
| Fit Statistics | 16 |

Model Comparison

| Champion | Name | Algorithm Name | KS (Youden) |
|----------|---------------------|---------------------|-------------|
| true | Forest | Forest | 0.5906 |
| false | Logistic Regression | Logistic Regression | 0.5829 |
| false | Decision Tree | Decision Tree | 0.5608 |

| Accuracy | Average Squared Error | Area Under ROC | Cumulative Lift |
|----------|-----------------------|----------------|-----------------|
| 0.9376 | 0.0570 | 0.8234 | 6.1729 |
| 0.9332 | 0.0598 | 0.8128 | 6.0126 |
| 0.9353 | 0.0584 | 0.8115 | 5.9124 |

| Cumulative Captured Response Percentage | Cutoff | Data Role | Depth |
|---|--------|-----------|-------|
| 61.7290 | 0.5000 | VALIDATE | 10 |
| 60.1263 | 0.5000 | VALIDATE | 10 |
| 59.1238 | 0.5000 | VALIDATE | 10 |

| F1 Score | False Discovery Rate | False Positive Rate | Gain |
|----------|----------------------|---------------------|--------|
| 0.6594 | 0.0220 | 0.0015 | 5.1729 |
| 0.6487 | 0.1029 | 0.0080 | 5.0126 |
| 0.6584 | 0.0825 | 0.0064 | 4.9124 |

| Gini Coefficient | ROC Separation | Lift | Misclassification Rate |
|------------------|----------------|--------|------------------------|
| 0.6468 | 0.4958 | 4.1379 | 0.0624 |
| 0.6256 | 0.5000 | 4.1671 | 0.0668 |
| 0.6229 | 0.5070 | 3.9074 | 0.0647 |

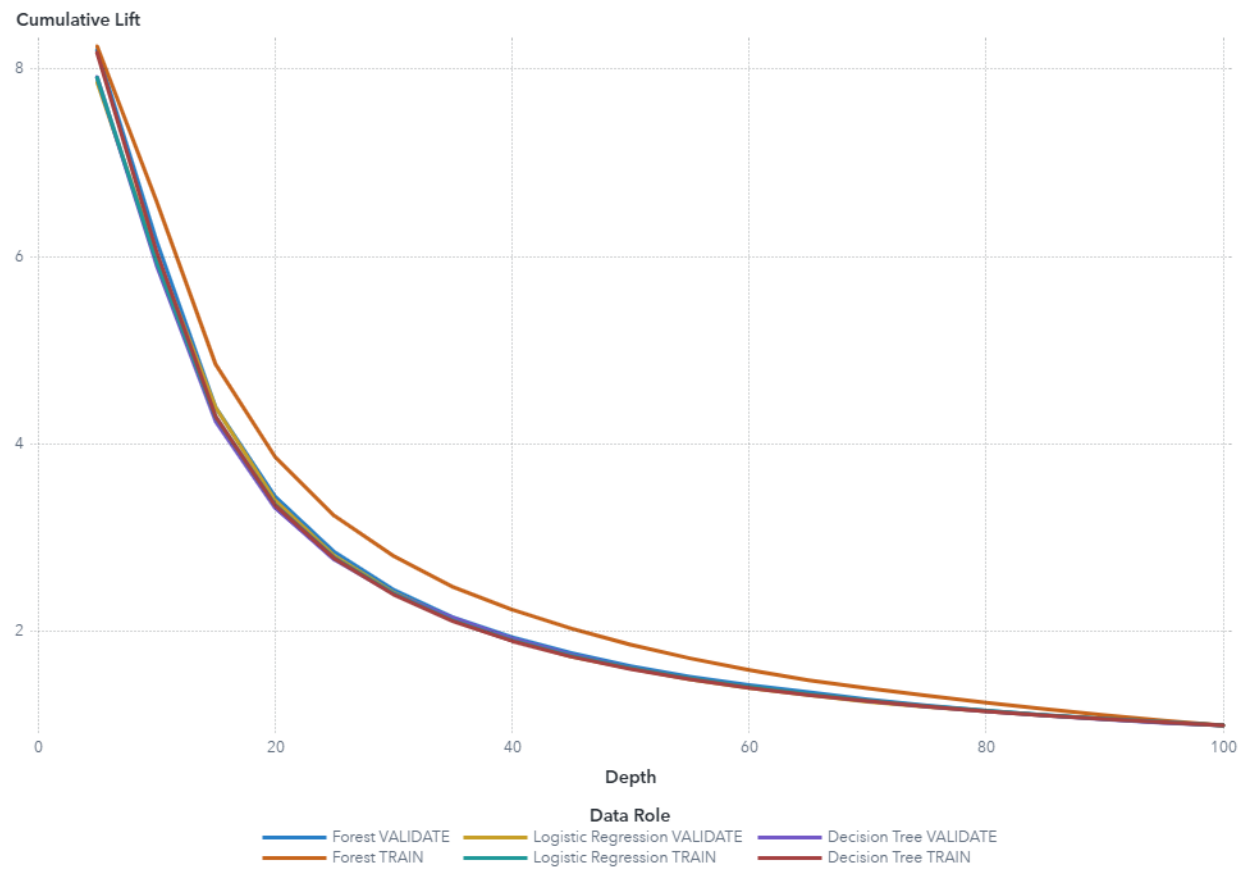
| Multi-Class Log Loss | Misclassification at Cutoff | Misclassification Rate (Event) | Number of Observations |
|----------------------|-----------------------------|--------------------------------|------------------------|
| 0.2250 | 0.0624 | 0.0624 | 16,967 |
| 0.2379 | 0.0668 | 0.0668 | 16,967 |
| 0.2516 | 0.0647 | 0.0647 | 16,967 |

| Root Average Squared Error | Captured Response Percentage |
|----------------------------|------------------------------|
| 0.2388 | 20.6897 |
| 0.2446 | 20.8354 |
| 0.2417 | 19.5371 |

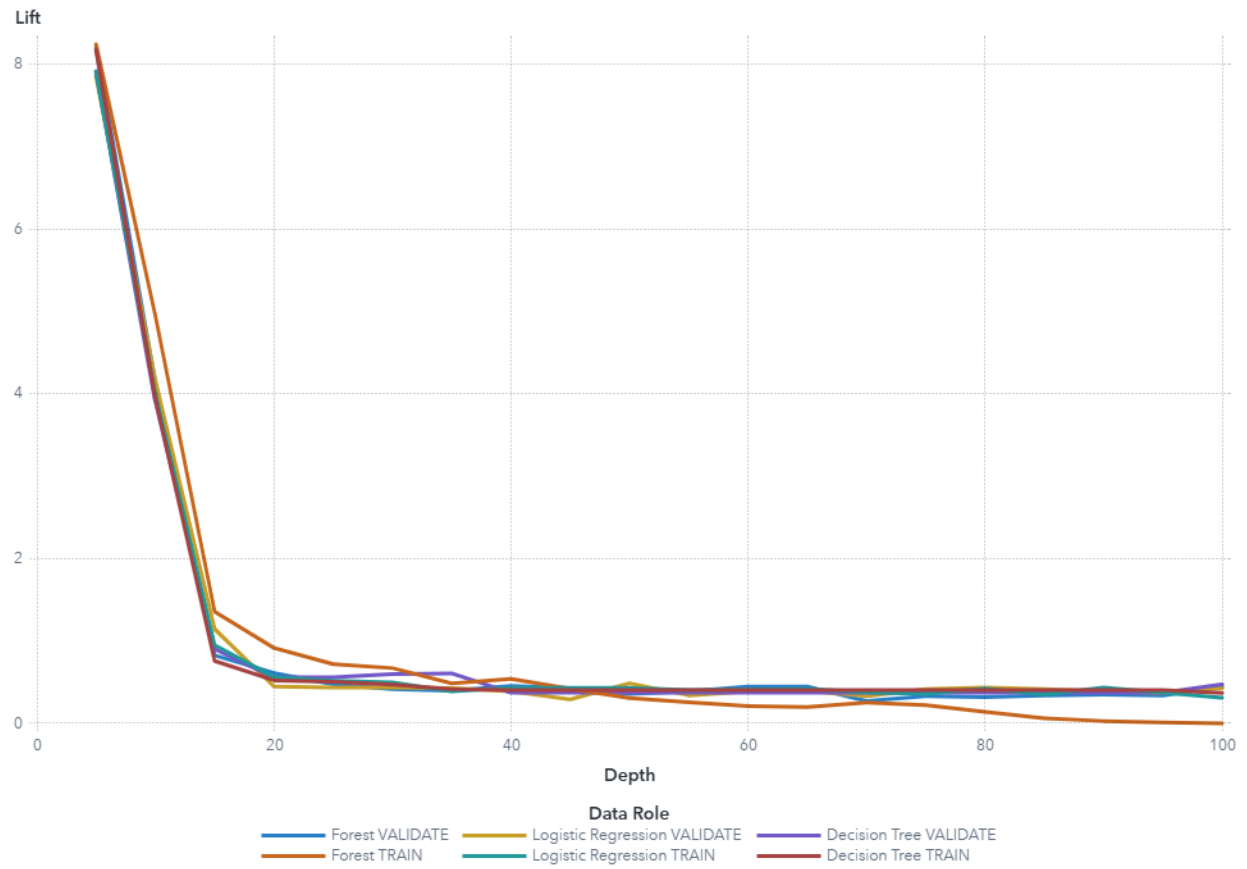
Properties

| Property Name | Property Value |
|---------------------------|-----------------------------------|
| selectionCriteriaClass | Kolmogorov-Smirnov statistic (KS) |
| selectionCriteriaInterval | Average squared error |
| selectionTable | Validate |
| selectionDepth | 10 |
| cutoff | 0.50 |

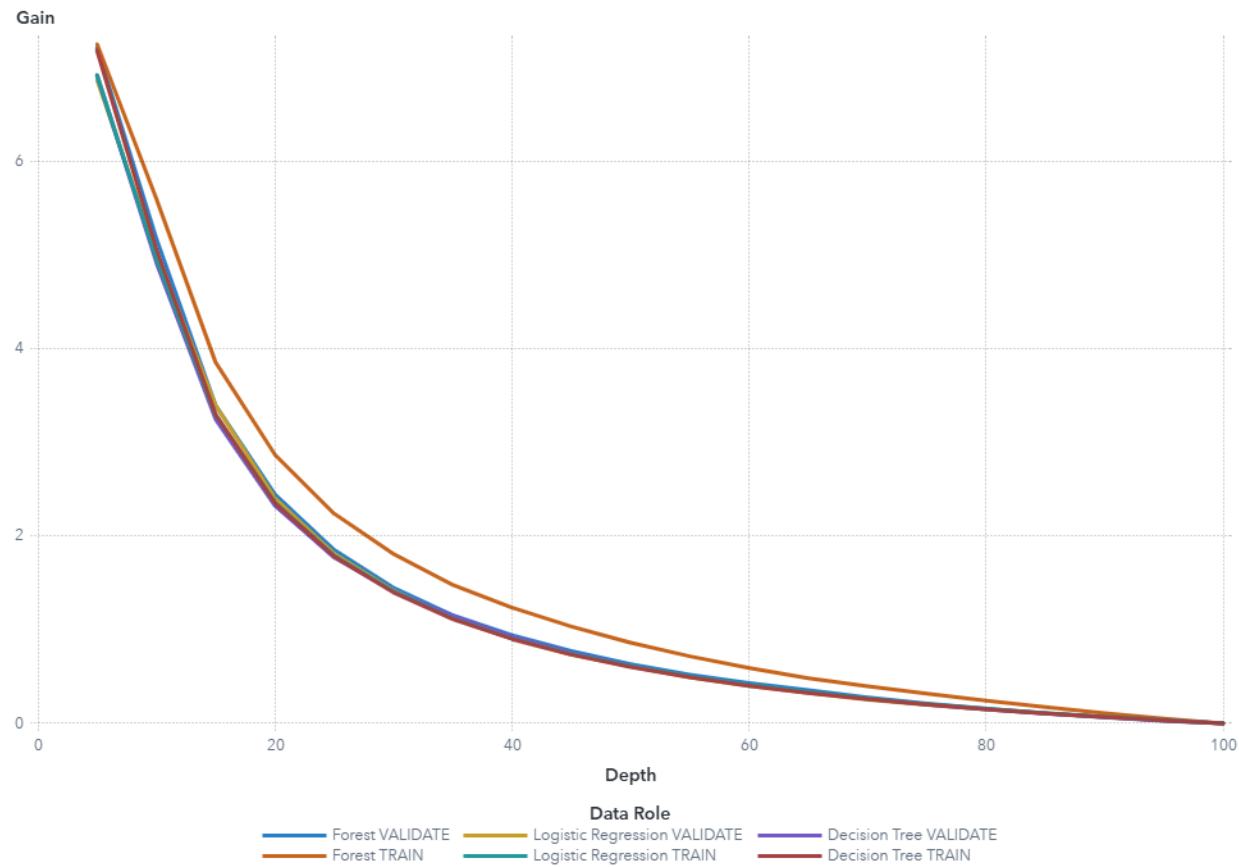
Cumulative Lift



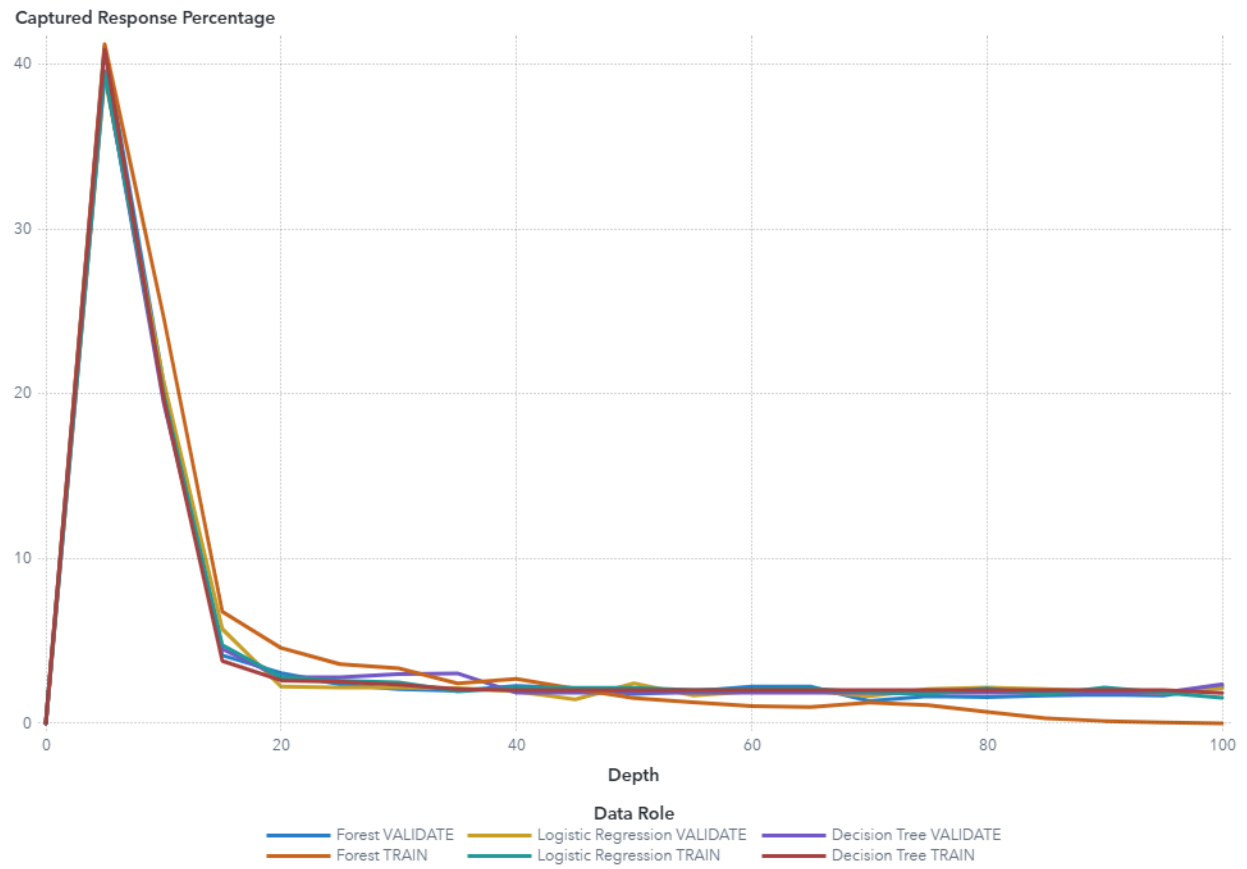
Lift



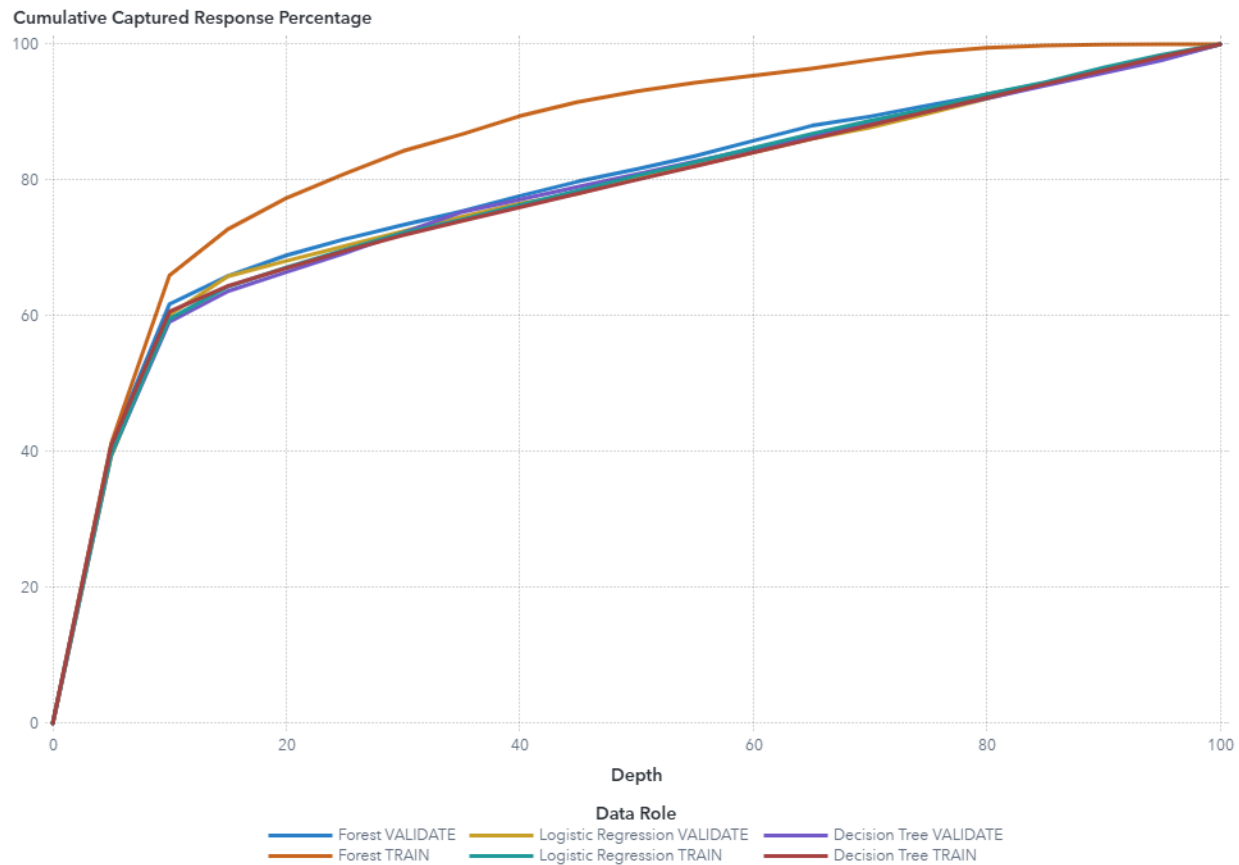
Gain



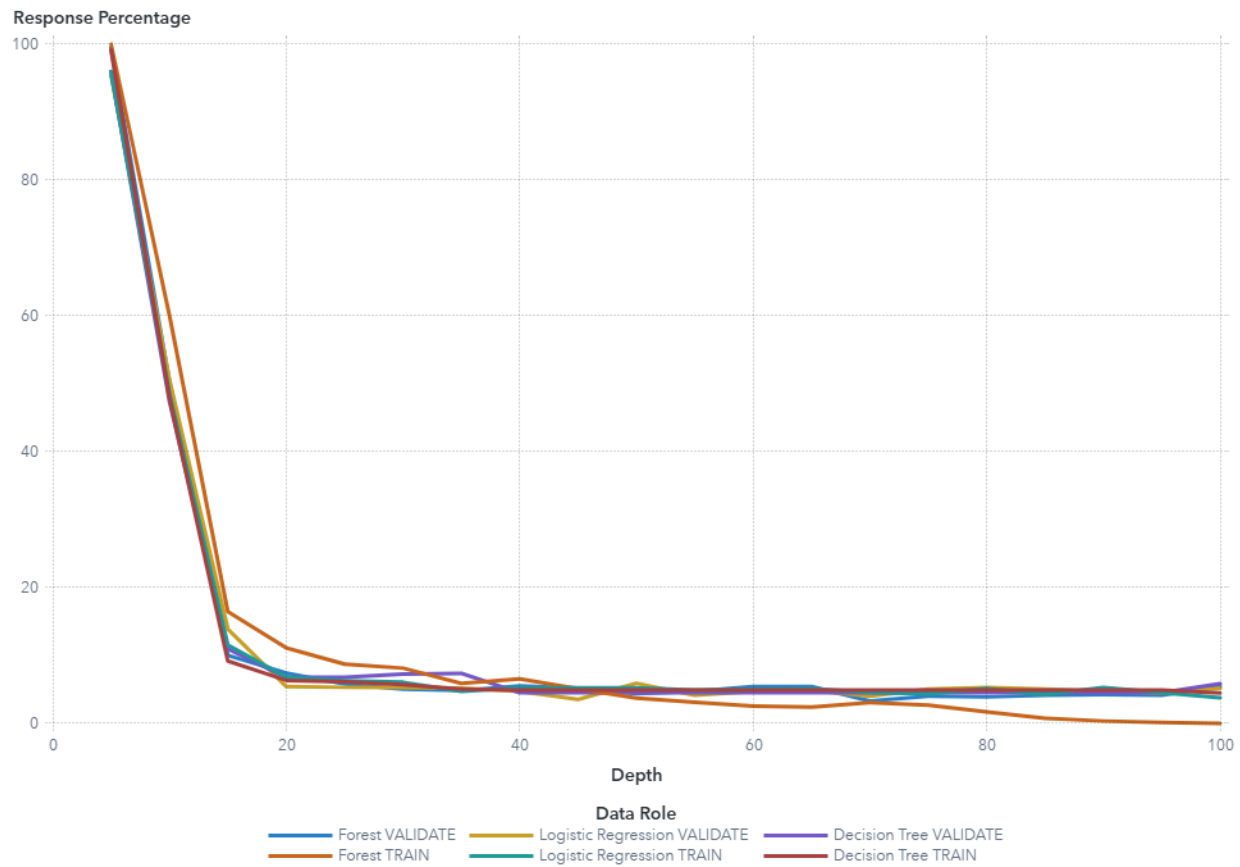
Captured Response Percentage



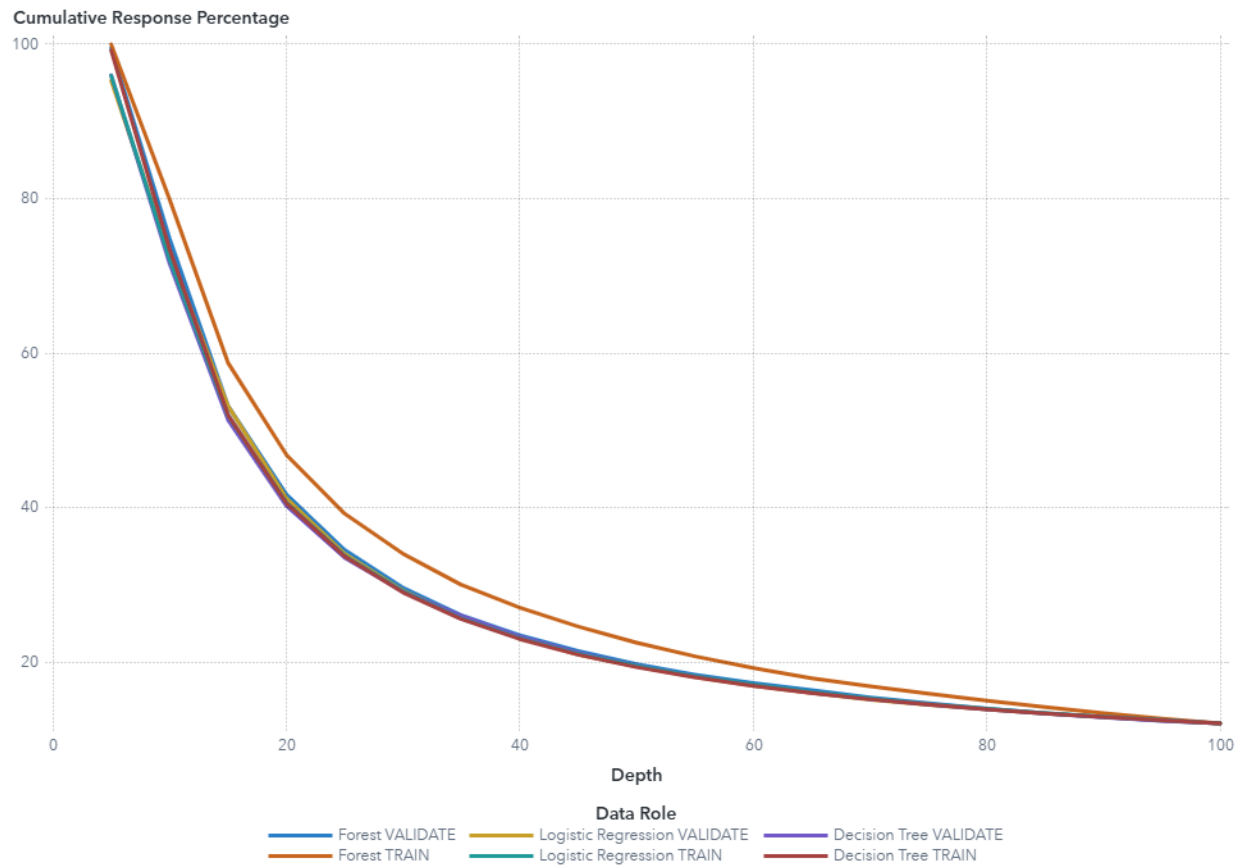
Cumulative Captured Response Percentage



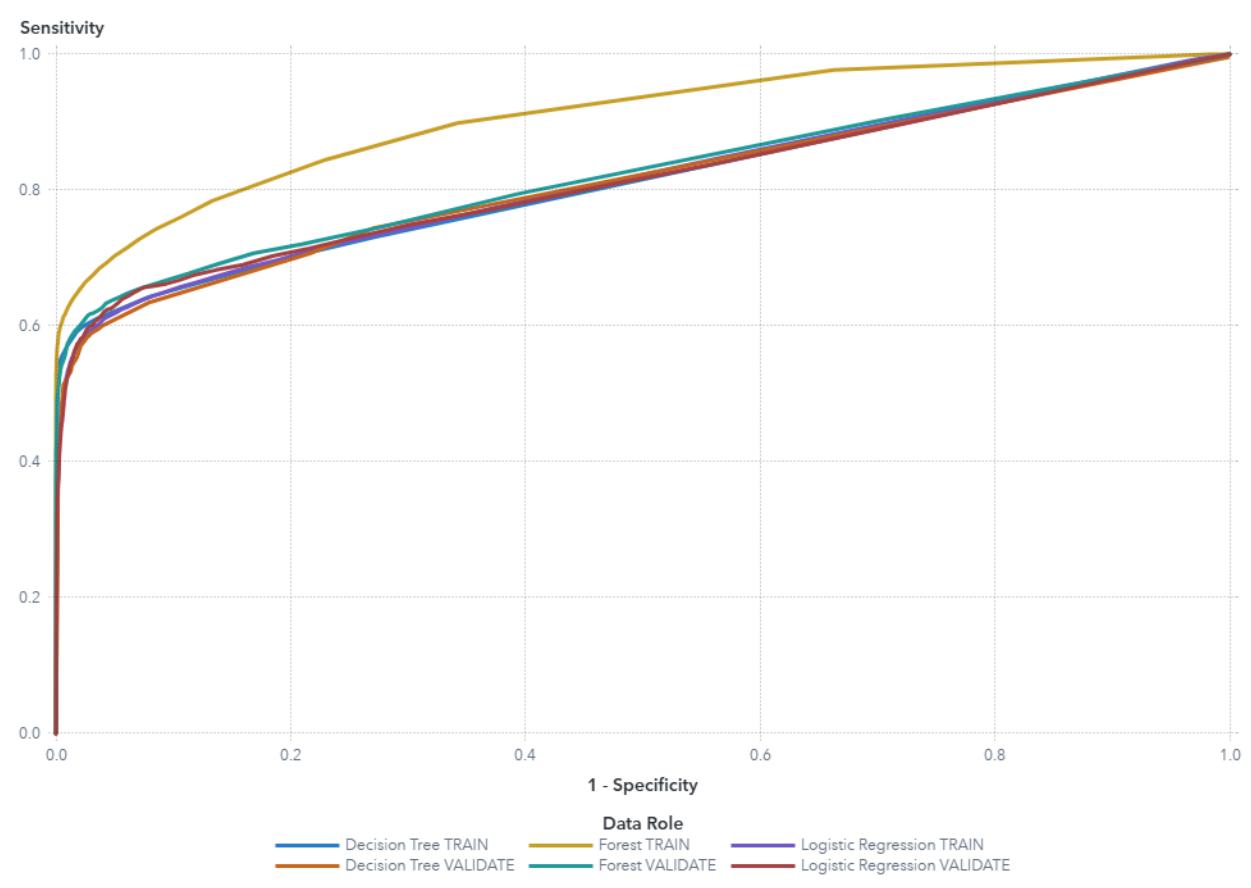
Response Percentage



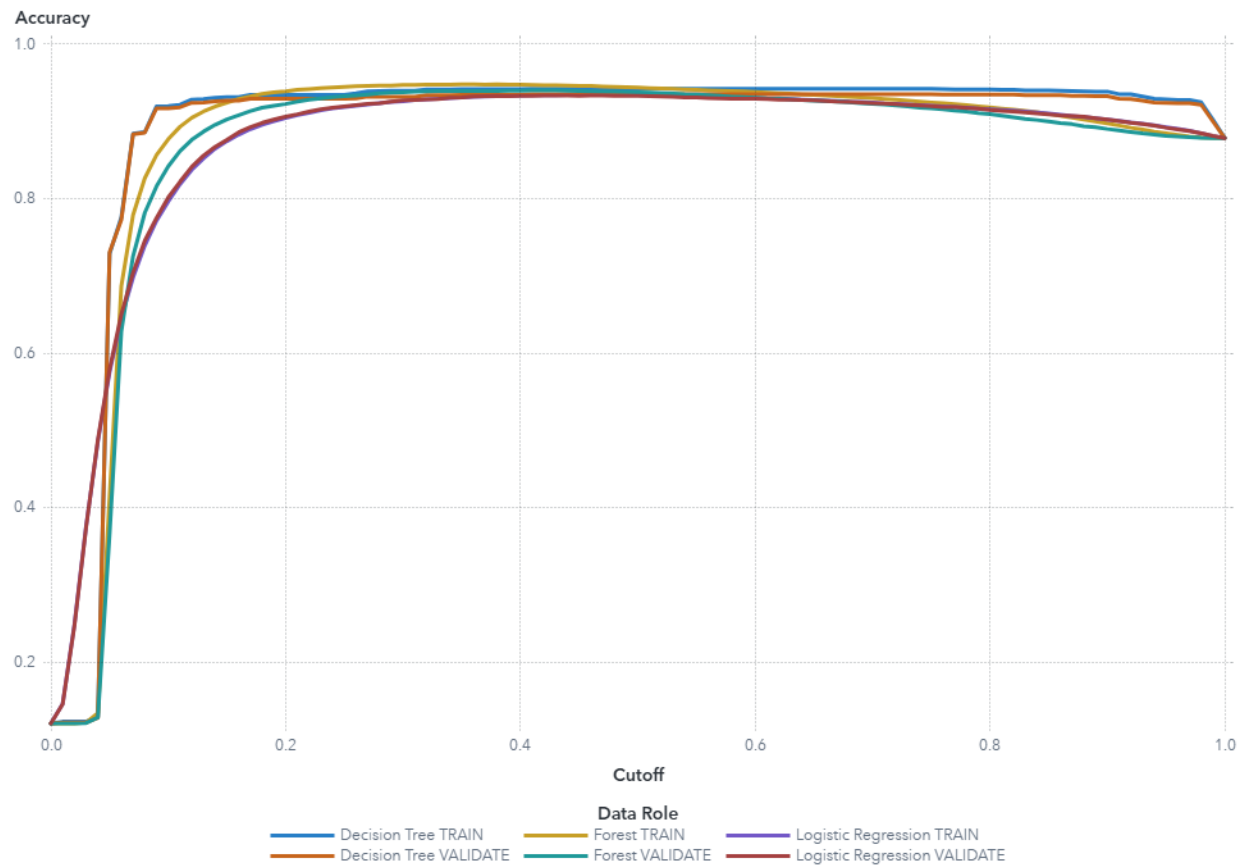
Cumulative Response Percentage



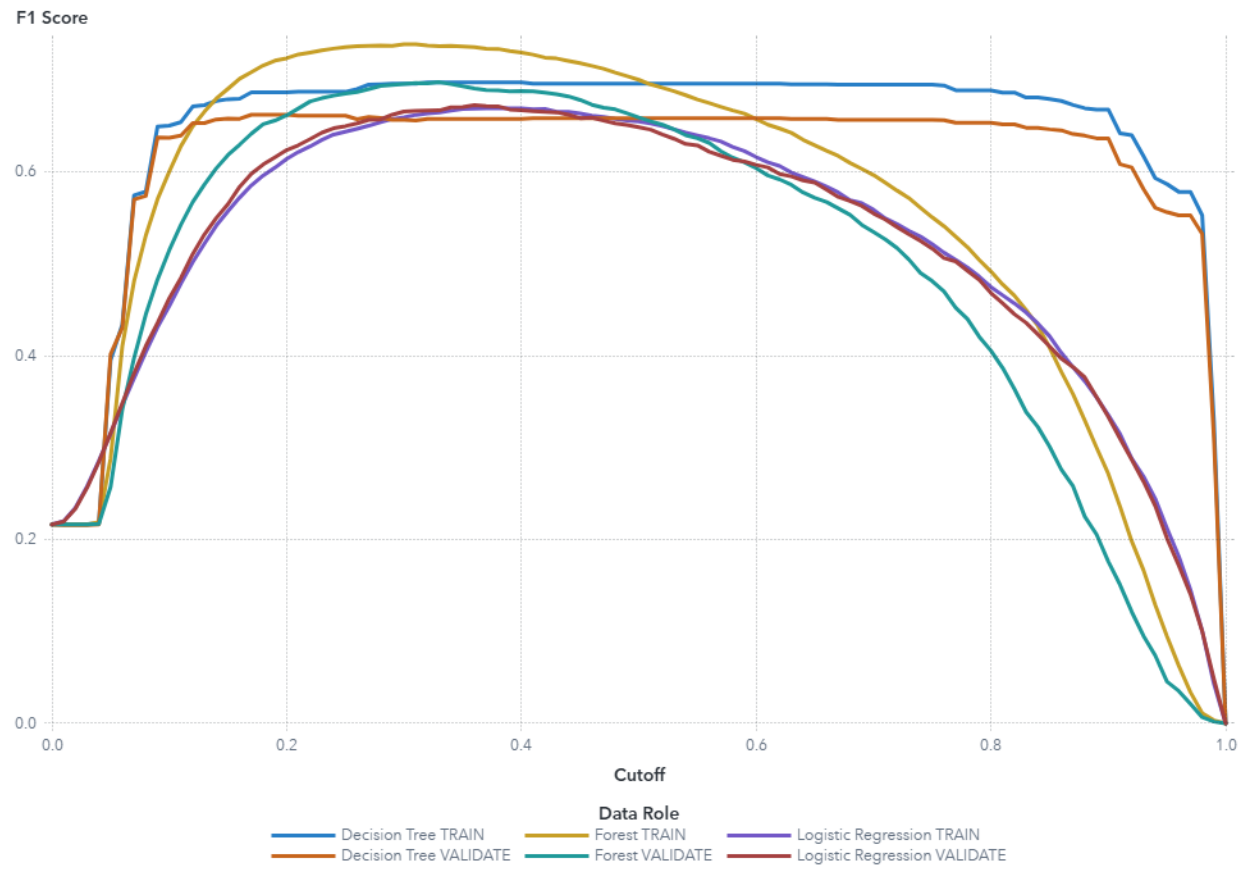
ROC



Accuracy



F1 Score



Fit Statistics

| Statistics Label | TRAIN_Forest | VALIDATE_Forest | TRAIN_Logistic_Regression |
|---|--------------|-----------------|---------------------------|
| Area Under ROC | 0.9057 | 0.8234 | 0.8137 |
| Average Squared Error | 0.0499 | 0.0570 | 0.0599 |
| Divisor for ASE | 39,590 | 16,967 | 39,590 |
| Formatted Partition | 1 | 0 | 1 |
| Gamma | 0.8482 | 0.6954 | 0.6484 |
| Gini Coefficient | 0.8113 | 0.6468 | 0.6274 |
| KS (Youden) | 0.6573 | 0.5906 | 0.5695 |
| KS at User-Specified Cutoff | 0.5401 | 0.4958 | 0.5061 |
| KS Cutoff | 0.1100 | 0.1800 | 0.2300 |
| Misclassification Rate | 0.0561 | 0.0624 | 0.0656 |
| Misclassification Rate (Event) | 0.0561 | 0.0624 | 0.0656 |
| Misclassification Rate at KS Cutoff (Event) | 0.1067 | 0.0820 | 0.0856 |
| Multi-Class Log Loss | 0.1976 | 0.2250 | 0.2377 |
| Number of Observations | 39,590 | 16,967 | 39,590 |
| Partition Indicator | 1 | 0 | 1 |
| Root Average Squared Error | 0.2233 | 0.2388 | 0.2448 |
| Target Name | churn | churn | churn |
| Tau | 0.1730 | 0.1379 | 0.1338 |

| | | |
|------------------------------|---------------------|------------------------|
| VALIDATE_Logistic_Regression | TRAIN_Decision_Tree | VALIDATE_Decision_Tree |
|------------------------------|---------------------|------------------------|

| VALIDATE_Logistic_Regression | TRAIN_Decision_Tree | VALIDATE_Decision_Tree |
|------------------------------|---------------------|------------------------|
| 0.8128 | 0.8112 | 0.8115 |
| 0.0598 | 0.0527 | 0.0584 |
| 16,967 | 39,590 | 16,967 |
| 0 | 1 | 0 |
| 0.6465 | 0.7811 | 0.7718 |
| 0.6256 | 0.6223 | 0.6229 |
| 0.5829 | 0.5762 | 0.5608 |
| 0.5000 | 0.5419 | 0.5070 |
| 0.2000 | 0.1200 | 0.0900 |
| 0.0668 | 0.0577 | 0.0647 |
| 0.0668 | 0.0577 | 0.0647 |
| 0.0936 | 0.0717 | 0.0828 |
| 0.2379 | 0.2107 | 0.2516 |
| 16,967 | 39,590 | 16,967 |
| 0 | 1 | 0 |
| 0.2446 | 0.2296 | 0.2417 |
| churn | churn | churn |
| 0.1334 | 0.1327 | 0.1328 |