1. Minor diagrams



2. Neural network with six hidden nodes
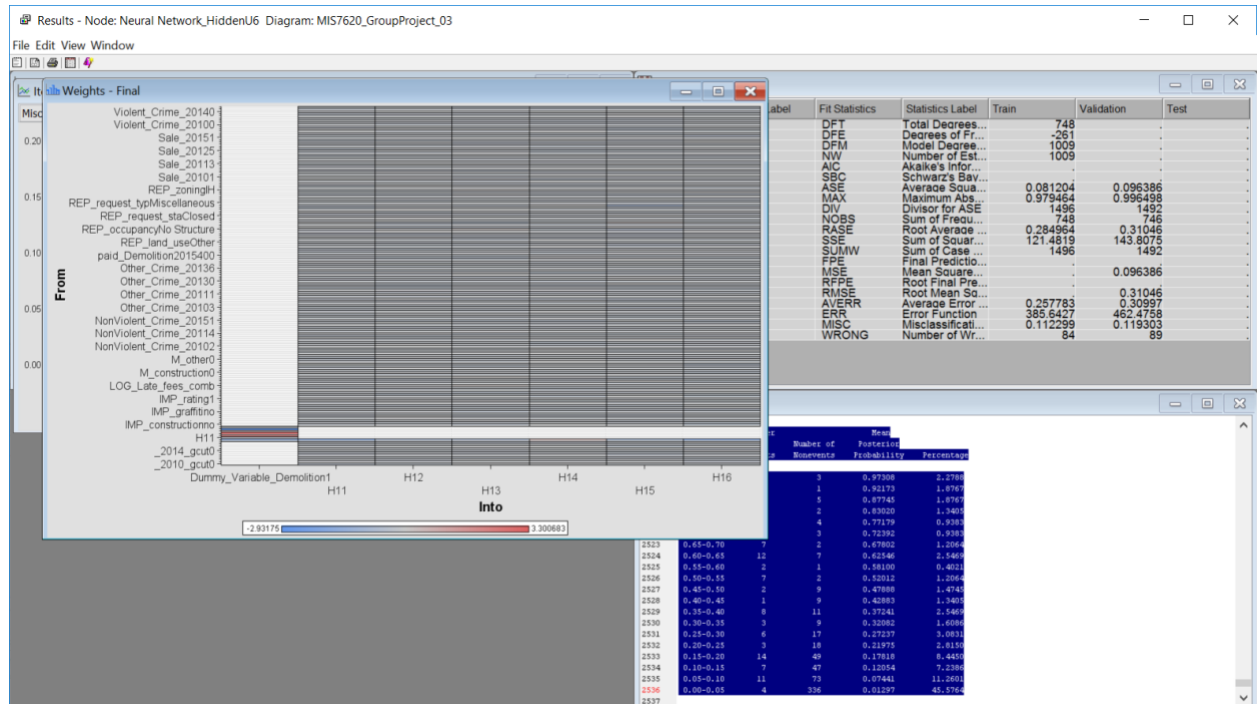
## 3. Fit statistics for decision trees



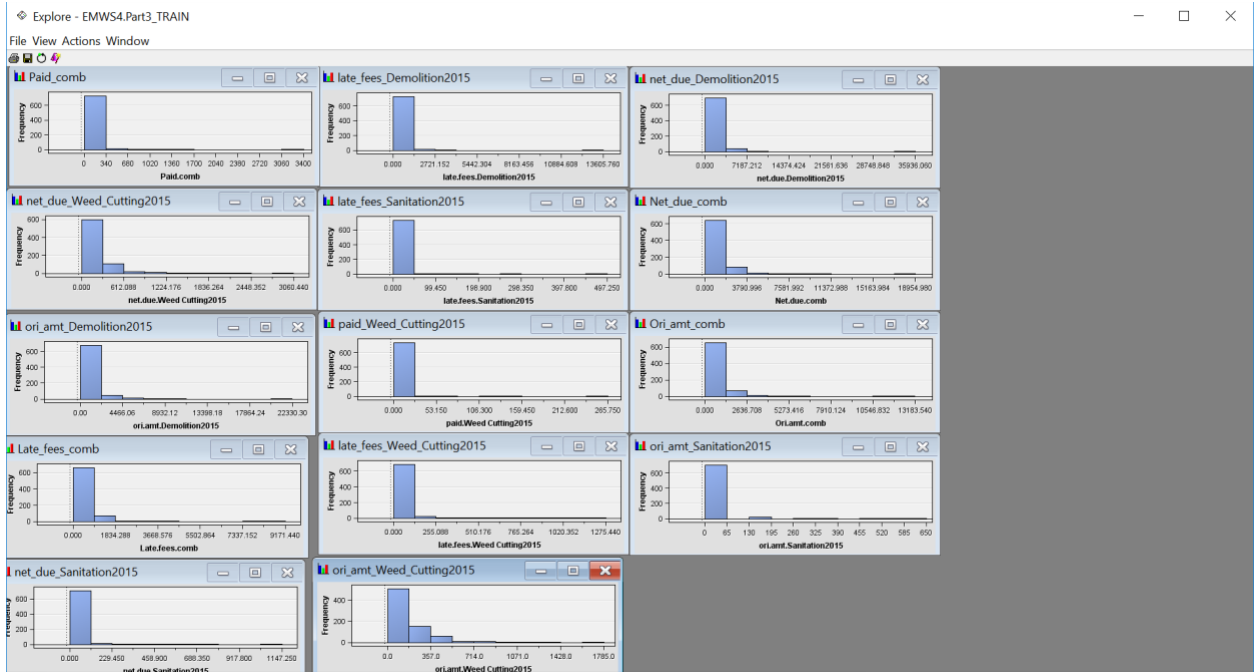## 4. Transformation variables

5.  Iteration plots for neural networks with six hidden units
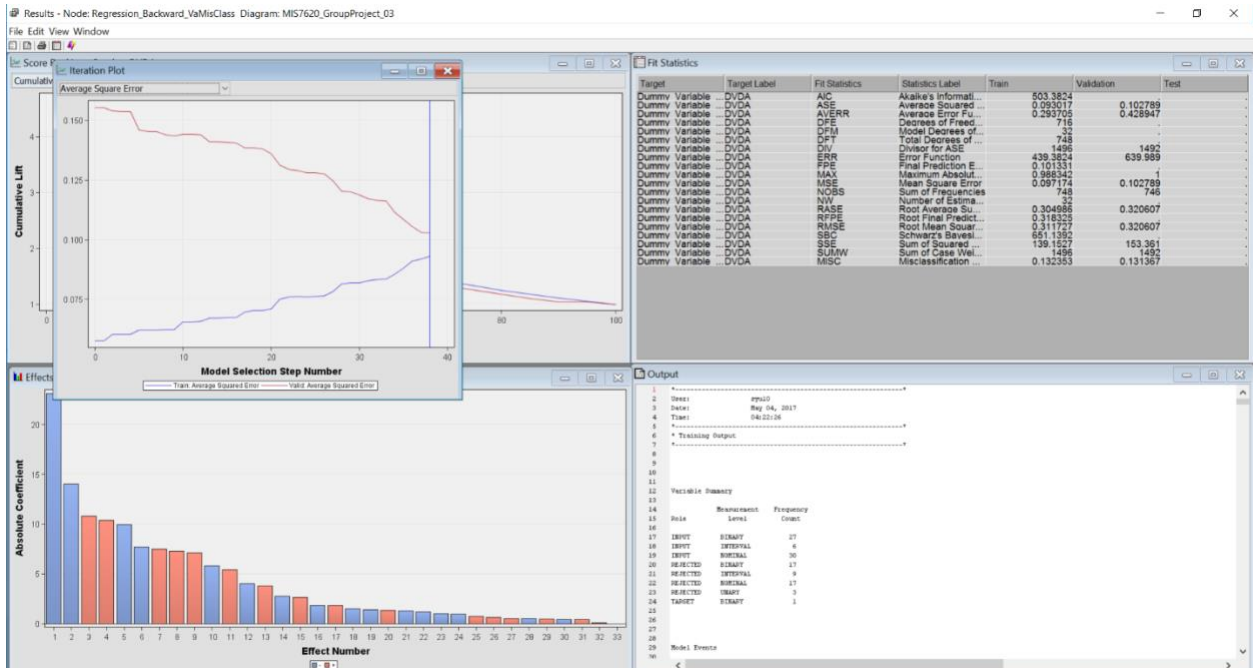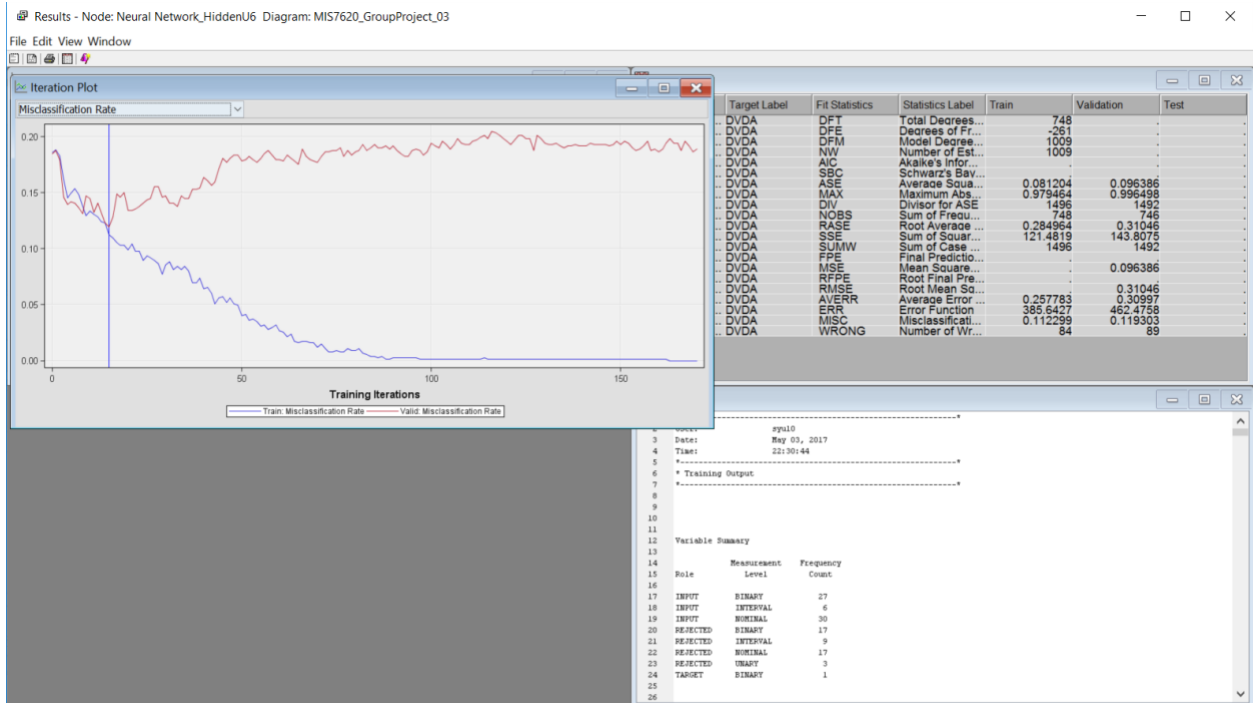
## 6. Nominal variable replacement



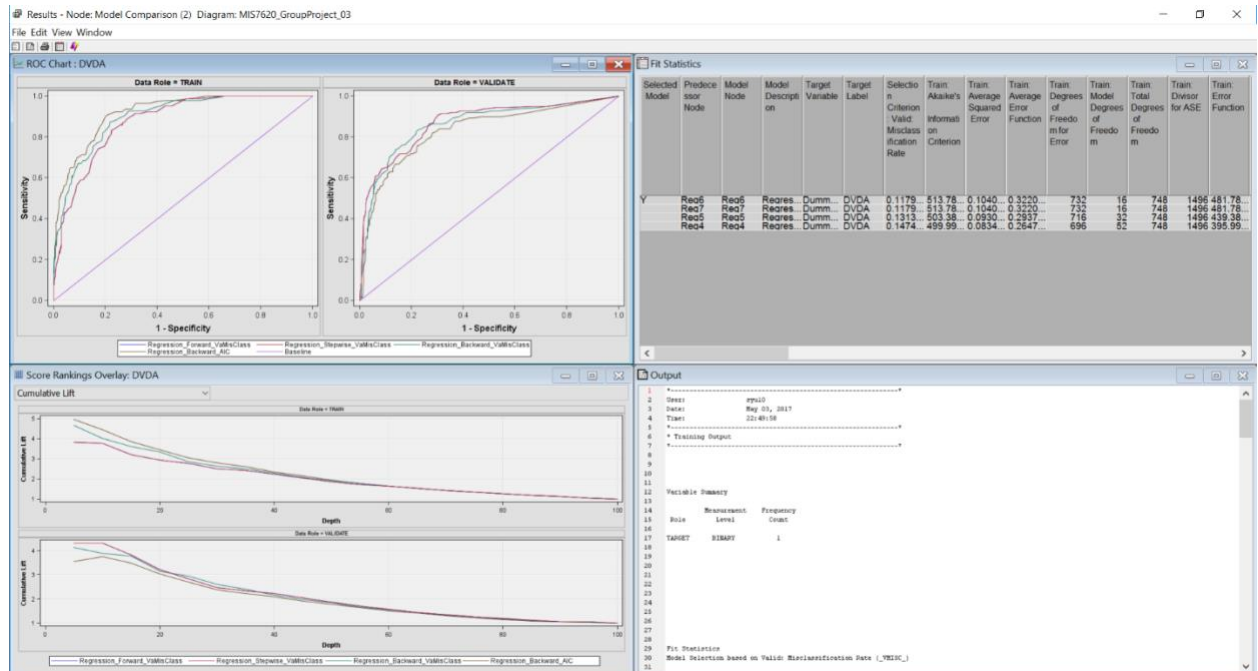| Variable | Formatted Value | Replacement Value | Frequency Count | Type | Character Unformatted Value | Numeric Value |
|----------|----------------|-------------------|-----------------|------|----------------------------|---------------|
| request_type | CE-Weeds Occupied Property | Weeds | 63 | C | CE-Weeds Occupied Property | . |
| request_type | CW-Weeds Vacant Houses | Weeds | 9 | C | CW-Weeds Vacant Houses | . |
| request_type | CW-Weeds Vacant Lots | Weeds | 2 | C | CW-Weeds Vacant Lots | . |
| zoning | RU-1 | RU | 196 | C | RU-1 | . |
| zoning | RU-3 | RU | 30 | C | RU-3 | . |
| zoning | RU-2 | RU | 4 | C | RU-2 | . |
| zoning | R-6 | R | 402 | C | R-6 | . |
| zoning | R-10 | R | 42 | C | R-10 | . |
| zoning | R-8 | R | 37 | C | R-8 | . |
| request_type | CE-Code Miscellaneous | Miscellaneous | 226 | C | CE-Code Miscellaneous | . |
| request_type | SC-Mayors Action Center(MIS) | Miscellaneous | 1 | C | SC-Mayors Action Center(MIS) | . |
| zoning | CMU-1 | CMU | 8 | C | CMU-1 | . |
| zoning | CMU-3 | CMU | 6 | C | CMU-3 | . |
| zoning | CMP-1 | CMP | 2 | C | CMP-1 | . |
| request_type | | _UNKNOWN_ | 121 | C | | . |
| request_status | | _UNKNOWN_ | 121 | C | | . |
| occupancy | | _UNKNOWN_ | 72 | C | | . |
| land_use | | _UNKNOWN_ | 79 | C | | . |
| 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 | | . |

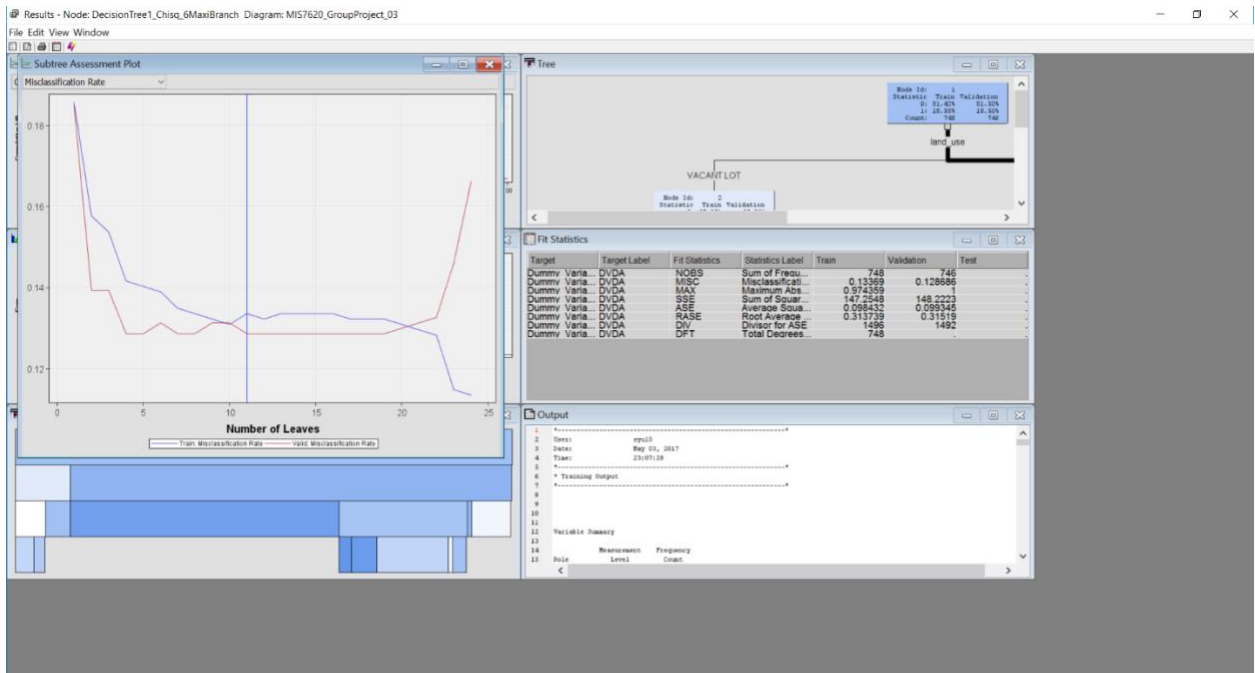## 7. ROC chart for decision trees
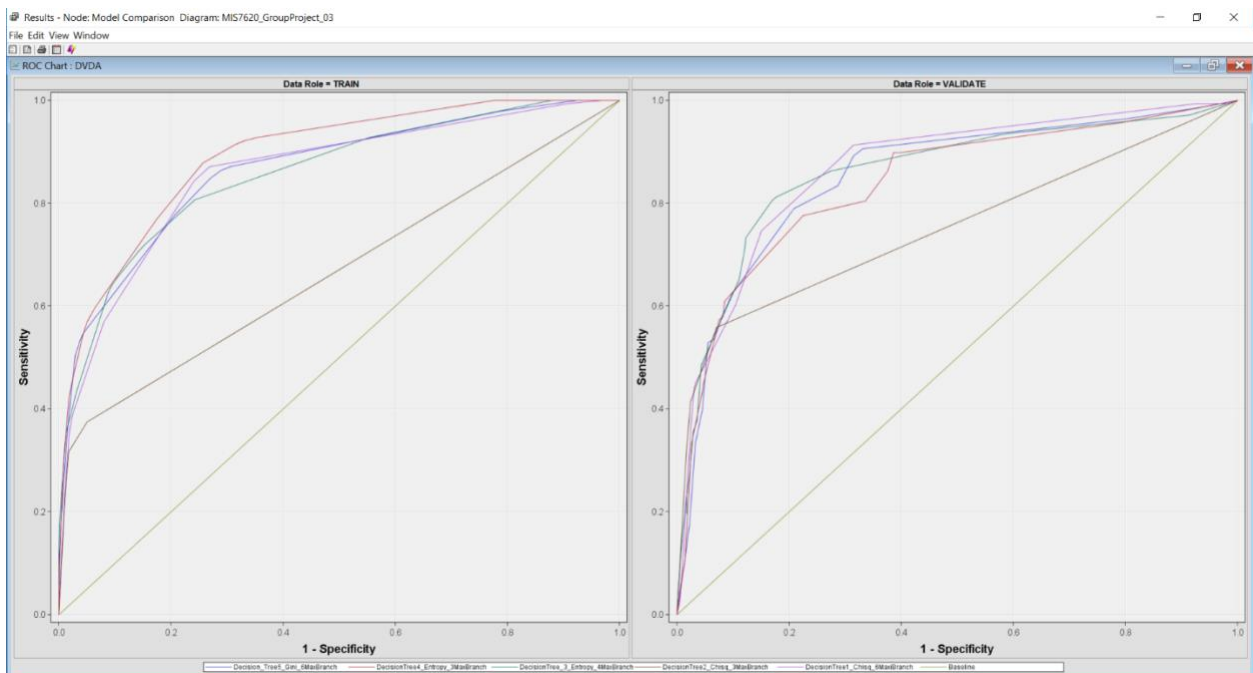
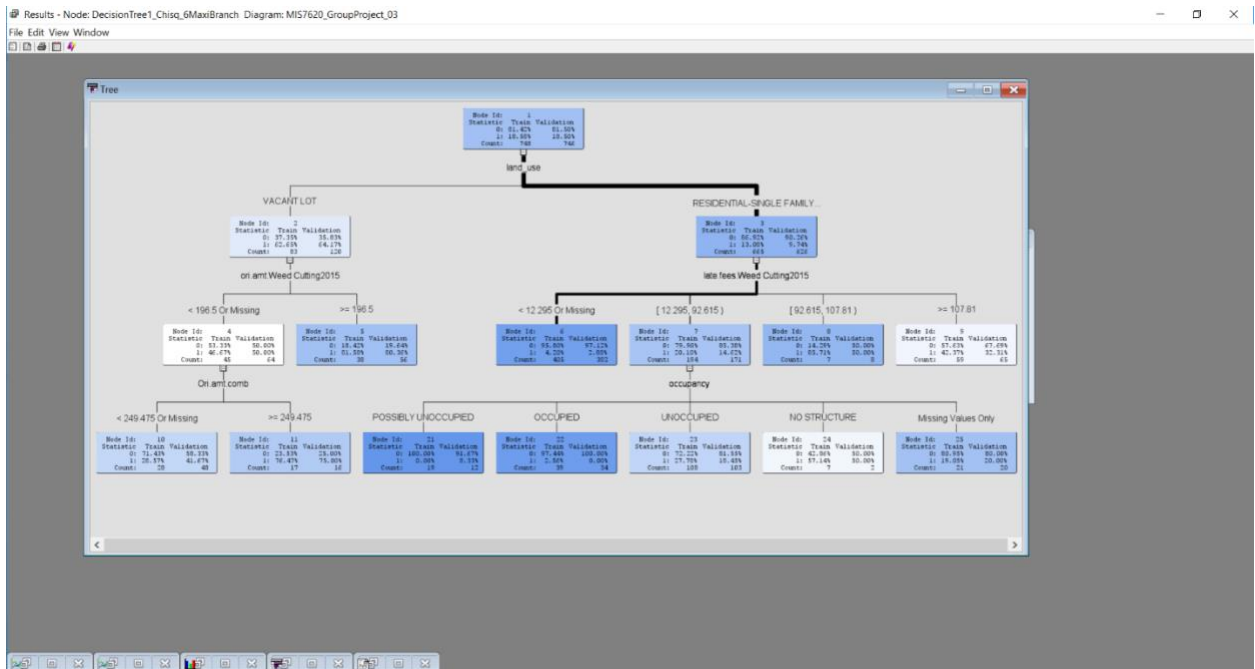## 8. ROC comparison for neural network models
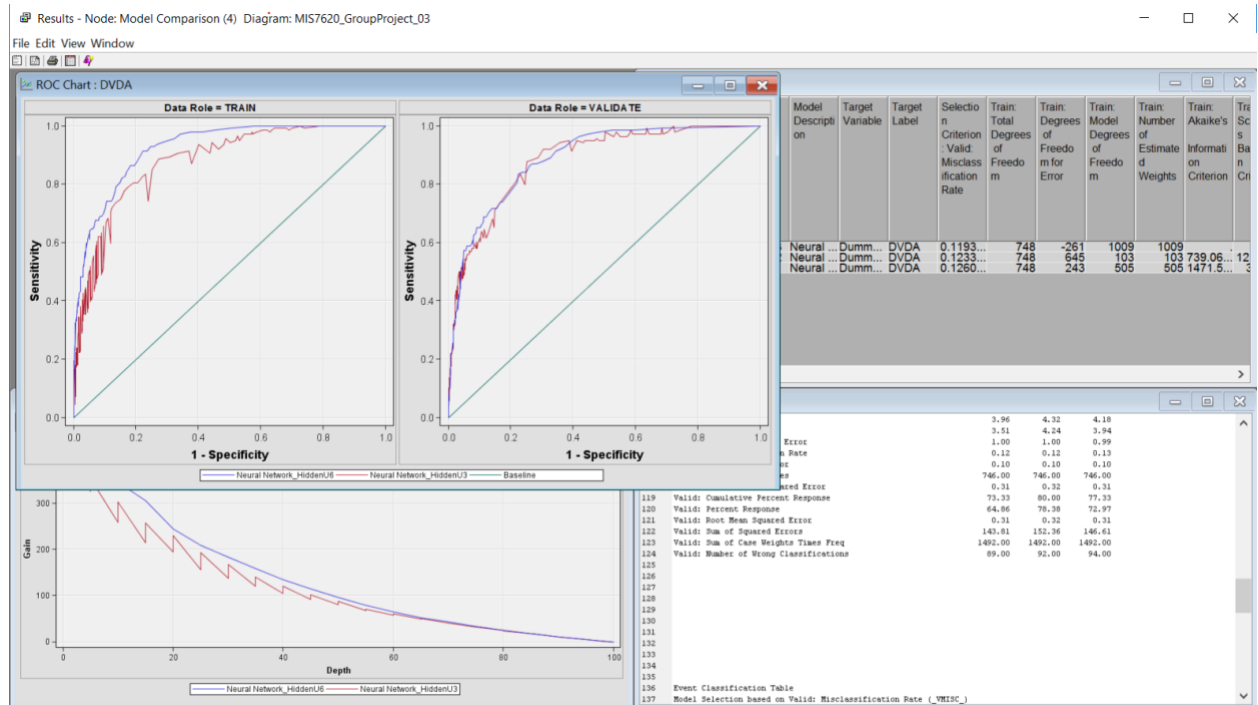


## 9. ROC comparison for regression models

## 10. Subtree assessment plot for a decision tree



## 11. The tree map of a decision tree

## 12. Variables for regression and neural network models



## 13. Statistical exploration of input variables