```
 *Radial Basis Function Network.
RBF loyalty_score (MLEVEL=S) BY region WITH age annual_income purchase_amount purchase_fr
equency
 /RESCALE COVARIATE=STANDARDIZED  DEPENDENT=STANDARDIZED
  /PARTITION  TRAINING=7  TESTING=3  HOLDOUT=0
  /ARCHITECTURE MINUNITS=AUTO MAXUNITS=AUTO HIDDENFUNCTION=NRBF
  /CRITERIA OVERLAP=AUTO
  /PRINT CPS NETWORKINFO SUMMARY IMPORTANCE
  /PLOT NETWORK
 /MISSING USERMISSING=EXCLUDE .
```

Radial Basis Function

Notes

Output Created		20-OCT-2024 23:49:03
Comments		
Input	Data	C:\Users\user\Desktop\Dataset\Customer Purchasing Behaviors.csv
	Active Dataset	DataSet1
	Filter	<none>
	Weight	<none>
	Split File	<none>
	N of Rows in Working Data File	238
Missing Value Handling	Definition of Missing	User- and system-missing values are treated as missing.
	Cases Used	Statistics are based on cases with valid data for all variables used by the procedure.
Weight Handling		not applicable

Notes

Syntax		RBF loyalty_score (MLEVEL=S) BY region WITH age annual_income purchase_amount purchase_frequency /RESCALE COVARIATE=STANDARDIZED DEPENDENT=STANDARDIZED /PARTITION TRAINING=7 TESTING=3 HOLDOUT=0 /ARCHITECTURE MINUNITS=AUTO MAXUNITS=AUTO HIDDENFUNCTION=NRBF /CRITERIA OVERLAP=AUTO /PRINT CPS NETWORKINFO SUMMARY IMPORTANCE /PLOT NETWORK /MISSING ...
Resources	Processor Time	00:00:00.95
	Elapsed Time	00:00:00.79

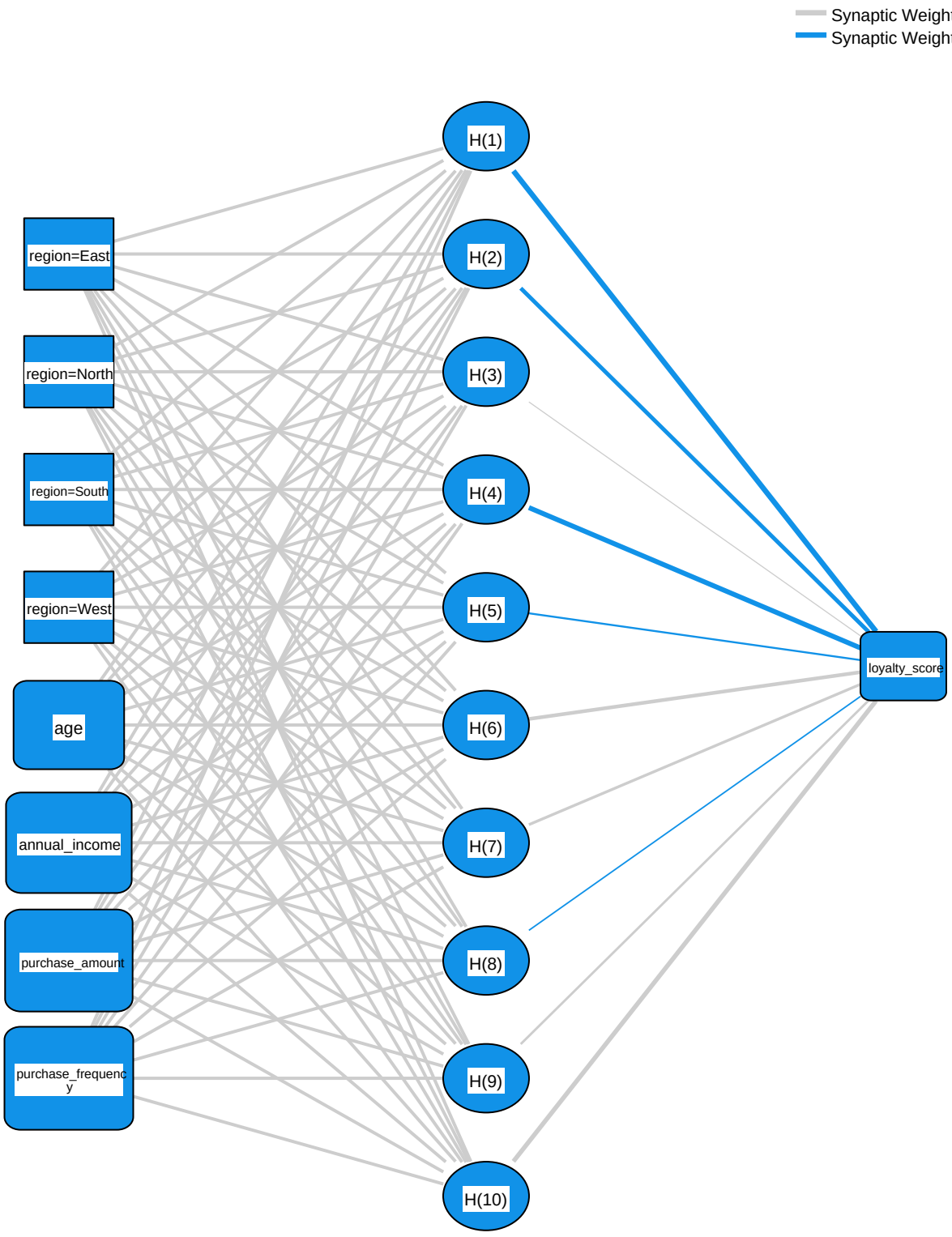
Case Processing Summary

		N	Percent
Sample	Training	177	74.4%
	Testing	61	25.6%
Valid		238	100.0%
Excluded		0	
Total		238	

Network Information

Input Layer	Factors	1	region
	Covariates	1	age
		2	annual_income
		3	purchase_amount
		4	purchase_frequency
	Number of Units		8
	Rescaling Method for Covariates		Standardized
Hidden Layer	Number of Units		10[a]
	Activation Function		Softmax
Output Layer	Dependent Variables	1	loyalty_score
	Number of Units		1
	Rescaling Method for Scale Dependents		Standardized
	Activation Function		Identity
	Error Function		Sum of Squares

a. Determined by the testing data criterion: The "best" number of hidden units is the one that yields the smallest error in the testing data.



Hidden layer activation function: Softmax

Output layer activation function: Identity

Model Summary

Training	Sum of Squares Error	4.414
	Relative Error	.050
	Training Time	0:00:00.03
Testing	Sum of Squares Error	1.669[a]
	Relative Error	.053

Dependent Variable: loyalty_score

a. The number of hidden units is determined by the testing data criterion: The "best" number of hidden units is the one that yields the smallest error in the testing data.

Independent Variable Importance

	Importance	Normalized Importance
region	.127	54.3%
age	.184	78.8%
annual_income	.225	96.4%
purchase_amount	.230	98.5%
purchase_frequency	.234	100.0%