**Time Domain – Alpha – Valence**

**NaiveBayes classifier**

**- Filter:** Partition membership (Random Tree)

Correctly Classified Instances 834 65.1563 %

Incorrectly Classified Instances 446 34.8438 %

Kappa statistic 0.3035

Mean absolute error 0.3635

Root mean squared error 0.542

Relative absolute error 73.1528 %

Root relative squared error 108.7379 %

Total Number of Instances 1280

=== Detailed Accuracy By Class ===

TP Rate FP Rate Precision Recall F-Measure MCC ROC Area PRC Area Class

0,638 0,332 0,692 0,638 0,664 0,305 0,693 0,725 1

0,668 0,362 0,612 0,668 0,639 0,305 0,693 0,636 0

Weighted Avg. 0,652 0,346 0,655 0,652 0,652 0,305 0,693 0,684

=== Confusion Matrix ===

a b <-- classified as

440 250 | a = 1

196 394 | b = 0

**SVM(SMO) Classifier**

**- Filter:** Partition membership (Random Tree)

**- Classifier:** SMO(Sequential minimal optimization)

- **FilterType**: Standardize training data

- **Kernel:** PUK

Correctly Classified Instances 1255 98.0469 %

Incorrectly Classified Instances 25 1.9531 %

Kappa statistic 0.9606

Mean absolute error 0.0195

Root mean squared error 0.1398

Relative absolute error 3.9302 %

Root relative squared error 28.0365 %

Total Number of Instances 1280

=== Detailed Accuracy By Class ===

TP Rate FP Rate Precision Recall F-Measure MCC ROC Area PRC Area Class

1,000 0,042 0,965 1,000 0,982 0,961 0,979 0,965 1

0,958 0,000 1,000 0,958 0,978 0,961 0,979 0,977 0

Weighted Avg. 0,980 0,023 0,981 0,980 0,980 0,961 0,979 0,971

=== Confusion Matrix ===

a b <-- classified as

690 0 | a = 1

25 565 | b = 0

**İBK Classifier**

- **Filter:** Partition membership (Random Tree)

Correctly Classified Instances 1218 95.1563 %

Incorrectly Classified Instances 62 4.8438 %

Kappa statistic 0.9027

Mean absolute error 0.0484

Root mean squared error 0.2183

Relative absolute error 9.7402 %

Root relative squared error 43.7859 %

Total Number of Instances 1280

=== Detailed Accuracy By Class ===

TP Rate FP Rate Precision Recall F-Measure MCC ROC Area PRC Area Class

0,946 0,042 0,963 0,946 0,955 0,903 0,968 0,970 1

0,958 0,054 0,939 0,958 0,948 0,903 0,968 0,942 0

Weighted Avg. 0,952 0,048 0,952 0,952 0,952 0,903 0,968 0,957

=== Confusion Matrix ===

a b <-- classified as

653 37 | a = 1

25 565 | b = 0

**RandomForest Classifier**

- **Filter:** Partition membership (Random Tree)

Correctly Classified Instances 1221 95.3906 %

Incorrectly Classified Instances 59 4.6094 %

Kappa statistic 0.9073

Mean absolute error 0.0658

Root mean squared error 0.1805

Relative absolute error 13.2338 %

Root relative squared error 36.2049 %

Total Number of Instances 1280

=== Detailed Accuracy By Class ===

TP Rate FP Rate Precision Recall F-Measure MCC ROC Area PRC Area Class

0,951 0,042 0,963 0,951 0,957 0,907 0,993 0,994 1

0,958 0,049 0,943 0,958 0,950 0,907 0,993 0,993 0

Weighted Avg. 0,954 0,046 0,954 0,954 0,954 0,907 0,993 0,994

=== Confusion Matrix ===

a b <-- classified as

656 34 | a = 1

25 565 | b = 0

**Time Domain – Beta – Valence**

**NaiveBayes classifier**

**- Filter:** Partition membership (Random Tree)

Correctly Classified Instances 841 65.7031 %

Incorrectly Classified Instances 439 34.2969 %

Kappa statistic 0.3108

Mean absolute error 0.3561

Root mean squared error 0.5587

Relative absolute error 71.6542 %

Root relative squared error 112.0782 %

Total Number of Instances 1280

=== Detailed Accuracy By Class ===

TP Rate FP Rate Precision Recall F-Measure MCC ROC Area PRC Area Class

0,674 0,363 0,685 0,674 0,679 0,311 0,690 0,672 1

0,637 0,326 0,626 0,637 0,631 0,311 0,690 0,647 0

Weighted Avg. 0,657 0,346 0,658 0,657 0,657 0,311 0,690 0,660

=== Confusion Matrix ===

a b <-- classified as

465 225 | a = 1

214 376 | b = 0

**SVM(SMO) Classifier**

**- Filter:** Partition membership (Random Tree)

**- Classifier:** SMO(Sequential minimal optimization)

- **FilterType**: Standardize training data

- **Kernel:** PUK

Correctly Classified Instances 1238 96.7188 %

Incorrectly Classified Instances 42 3.2813 %

Kappa statistic 0.9341

Mean absolute error 0.0328

Root mean squared error 0.1811

Relative absolute error 6.6027 %

Root relative squared error 36.3395 %

Total Number of Instances 1280

=== Detailed Accuracy By Class ===

TP Rate FP Rate Precision Recall F-Measure MCC ROC Area PRC Area Class

0,959 0,024 0,979 0,959 0,969 0,934 0,968 0,961 1

0,976 0,041 0,954 0,976 0,965 0,934 0,968 0,942 0

Weighted Avg. 0,967 0,031 0,967 0,967 0,967 0,934 0,968 0,952

=== Confusion Matrix ===

a b <-- classified as

662 28 | a = 1

14 576 | b = 0

**İBK Classifier**

- **Filter:** Partition membership (Random Tree)

Correctly Classified Instances 1209 94.4531 %

Incorrectly Classified Instances 71 5.5469 %

Kappa statistic 0.8883

Mean absolute error 0.0535

Root mean squared error 0.2276

Relative absolute error 10.7682 %

Root relative squared error 45.6615 %

Total Number of Instances 1280

=== Detailed Accuracy By Class ===

TP Rate FP Rate Precision Recall F-Measure MCC ROC Area PRC Area Class

0,955 0,068 0,943 0,955 0,949 0,888 0,967 0,962 1

0,932 0,045 0,947 0,932 0,939 0,888 0,967 0,953 0

Weighted Avg. 0,945 0,057 0,945 0,945 0,944 0,888 0,967 0,958

=== Confusion Matrix ===

a b <-- classified as

659 31 | a = 1

40 550 | b = 0

**RandomForest Classifier**

- **Filter:** Partition membership (Random Tree)

Correctly Classified Instances 1216 95 %

Incorrectly Classified Instances 64 5 %

Kappa statistic 0.8993

Mean absolute error 0.0731

Root mean squared error 0.1852

Relative absolute error 14.7021 %

Root relative squared error 37.163 %

Total Number of Instances 1280

=== Detailed Accuracy By Class ===

TP Rate FP Rate Precision Recall F-Measure MCC ROC Area PRC Area Class

0,958 0,059 0,950 0,958 0,954 0,899 0,993 0,994 1

0,941 0,042 0,950 0,941 0,945 0,899 0,993 0,992 0

Weighted Avg. 0,950 0,051 0,950 0,950 0,950 0,899 0,993 0,993

=== Confusion Matrix ===

a b <-- classified as

661 29 | a = 1

35 555 | b = 0

**Time Domain – Gamma – Valence**

**NaiveBayes classifier**

**- Filter:** Partition membership (Random Tree)

Correctly Classified Instances 792 61.875 %

Incorrectly Classified Instances 488 38.125 %

Kappa statistic 0.2369

Mean absolute error 0.3848

Root mean squared error 0.5596

Relative absolute error 77.4334 %

Root relative squared error 112.2565 %

Total Number of Instances 1280

=== Detailed Accuracy By Class ===

TP Rate FP Rate Precision Recall F-Measure MCC ROC Area PRC Area Class

0,614 0,376 0,656 0,614 0,635 0,238 0,663 0,660 1

0,624 0,386 0,580 0,624 0,601 0,238 0,663 0,633 0

Weighted Avg. 0,619 0,381 0,621 0,619 0,619 0,238 0,663 0,647

=== Confusion Matrix ===

a b <-- classified as

424 266 | a = 1

222 368 | b = 0

**SVM(SMO) Classifier**

**- Filter:** Partition membership (Random Tree)

**- Classifier:** SMO(Sequential minimal optimization)

- **FilterType**: Standardize training data

- **Kernel:** PUK

Correctly Classified Instances 1241 96.9531 %

Incorrectly Classified Instances 39 3.0469 %

Kappa statistic 0.9384

Mean absolute error 0.0305

Root mean squared error 0.1746

Relative absolute error 6.1311 %

Root relative squared error 35.0176 %

Total Number of Instances 1280

=== Detailed Accuracy By Class ===

TP Rate FP Rate Precision Recall F-Measure MCC ROC Area PRC Area Class

1,000 0,066 0,947 1,000 0,973 0,940 0,967 0,947 1

0,934 0,000 1,000 0,934 0,966 0,940 0,967 0,964 0

Weighted Avg. 0,970 0,036 0,971 0,970 0,969 0,940 0,967 0,955

=== Confusion Matrix ===

a b <-- classified as

690 0 | a = 1

39 551 | b = 0

**İBK Classifier**

- **Filter:** Partition membership (Random Tree)

Correctly Classified Instances 1207 94.2969 %

Incorrectly Classified Instances 73 5.7031 %

Kappa statistic 0.8852

Mean absolute error 0.0561

Root mean squared error 0.2344

Relative absolute error 11.282 %

Root relative squared error 47.0158 %

Total Number of Instances 1280

=== Detailed Accuracy By Class ===

TP Rate FP Rate Precision Recall F-Measure MCC ROC Area PRC Area Class

0,951 0,066 0,944 0,951 0,947 0,885 0,966 0,965 1

0,934 0,049 0,942 0,934 0,938 0,885 0,966 0,955 0

Weighted Avg. 0,943 0,058 0,943 0,943 0,943 0,885 0,966 0,960

=== Confusion Matrix ===

a b <-- classified as

656 34 | a = 1

39 551 | b = 0

**RandomForest Classifier**

- **Filter:** Partition membership (Random Tree)

Correctly Classified Instances 1210 94.5313 %

Incorrectly Classified Instances 70 5.4688 %

Kappa statistic 0.8899

Mean absolute error 0.0729

Root mean squared error 0.1866

Relative absolute error 14.6628 %

Root relative squared error 37.437 %

Total Number of Instances 1280

=== Detailed Accuracy By Class ===

TP Rate FP Rate Precision Recall F-Measure MCC ROC Area PRC Area Class

0,954 0,064 0,945 0,954 0,949 0,890 0,993 0,994 1

0,936 0,046 0,945 0,936 0,940 0,890 0,993 0,992 0

Weighted Avg. 0,945 0,056 0,945 0,945 0,945 0,890 0,993 0,993

=== Confusion Matrix ===

a b <-- classified as

658 32 | a = 1

38 552 | b = 0