**Frequency Domain – Alpha – Valence**

**NaiveBayes classifier**

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

Correctly Classified Instances 838 65.4688 %

Incorrectly Classified Instances 442 34.5313 %

Kappa statistic 0.306

Mean absolute error 0.3606

Root mean squared error 0.5356

Relative absolute error 72.5589 %

Root relative squared error 107.4414 %

Total Number of Instances 1280

=== Detailed Accuracy By Class ===

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

0,672 0,366 0,682 0,672 0,677 0,306 0,691 0,695 1

0,634 0,328 0,623 0,634 0,629 0,306 0,691 0,646 0

Weighted Avg. 0,655 0,348 0,655 0,655 0,655 0,306 0,691 0,672

=== Confusion Matrix ===

a b <-- classified as

464 226 | a = 1

216 374 | b = 0

**SVM(SMO) Classifier**

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

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

- **FilterType**: Standardize training data

- **Kernel:** PUK

Correctly Classified Instances 1248 97.5 %

Incorrectly Classified Instances 32 2.5 %

Kappa statistic 0.9499

Mean absolute error 0.025

Root mean squared error 0.1581

Relative absolute error 5.0307 %

Root relative squared error 31.7197 %

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 0,002 0,998 0,955 0,976 0,951 0,977 0,978 1

0,998 0,045 0,950 0,998 0,974 0,951 0,977 0,949 0

Weighted Avg. 0,975 0,022 0,976 0,975 0,975 0,951 0,977 0,965

=== Confusion Matrix ===

a b <-- classified as

659 31 | a = 1

1 589 | b = 0

**İBK Classifier**

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

Correctly Classified Instances 1222 95.4688 %

Incorrectly Classified Instances 58 4.5313 %

Kappa statistic 0.9088

Mean absolute error 0.0454

Root mean squared error 0.2125

Relative absolute error 9.1434 %

Root relative squared error 42.6355 %

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 0,051 0,957 0,959 0,958 0,909 0,965 0,961 1

0,949 0,041 0,952 0,949 0,951 0,909 0,965 0,948 0

Weighted Avg. 0,955 0,046 0,955 0,955 0,955 0,909 0,965 0,955

=== Confusion Matrix ===

a b <-- classified as

662 28 | a = 1

30 560 | b = 0

**RandomForest Classifier**

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

Correctly Classified Instances 1224 95.625 %

Incorrectly Classified Instances 56 4.375 %

Kappa statistic 0.9119

Mean absolute error 0.0615

Root mean squared error 0.1746

Relative absolute error 12.3785 %

Root relative squared error 35.0239 %

Total Number of Instances 1280

=== Detailed Accuracy By Class ===

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

0,962 0,051 0,957 0,962 0,960 0,912 0,995 0,996 1

0,949 0,038 0,956 0,949 0,952 0,912 0,995 0,994 0

Weighted Avg. 0,956 0,045 0,956 0,956 0,956 0,912 0,995 0,995

=== Confusion Matrix ===

a b <-- classified as

664 26 | a = 1

30 560 | b = 0

**Frequency Domain – Beta – Arousal**

**NaiveBayes classifier**

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

Correctly Classified Instances 816 63.75 %

Incorrectly Classified Instances 464 36.25 %

Kappa statistic 0.2778

Mean absolute error 0.3693

Root mean squared error 0.5748

Relative absolute error 74.3079 %

Root relative squared error 115.3136 %

Total Number of Instances 1280

=== Detailed Accuracy By Class ===

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

0,604 0,324 0,686 0,604 0,643 0,280 0,678 0,687 1

0,676 0,396 0,594 0,676 0,632 0,280 0,678 0,629 0

Weighted Avg. 0,638 0,357 0,643 0,638 0,638 0,280 0,678 0,660

=== Confusion Matrix ===

a b <-- classified as

417 273 | a = 1

191 399 | b = 0

**SVM(SMO) Classifier**

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

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

- **FilterType**: Standardize training data

- **Kernel:** PUK

Correctly Classified Instances 1244 97.1875 %

Incorrectly Classified Instances 36 2.8125 %

Kappa statistic 0.9433

Mean absolute error 0.0281

Root mean squared error 0.1677

Relative absolute error 5.6595 %

Root relative squared error 33.6438 %

Total Number of Instances 1280

=== Detailed Accuracy By Class ===

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

0,981 0,039 0,967 0,981 0,974 0,943 0,971 0,959 1

0,961 0,019 0,978 0,961 0,969 0,943 0,971 0,957 0

Weighted Avg. 0,972 0,030 0,972 0,972 0,972 0,943 0,971 0,958

=== Confusion Matrix ===

a b <-- classified as

677 13 | a = 1

23 567 | b = 0

**İBK Classifier**

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

Correctly Classified Instances 1217 95.0781 %

Incorrectly Classified Instances 63 4.9219 %

Kappa statistic 0.9011

Mean absolute error 0.0492

Root mean squared error 0.2208

Relative absolute error 9.8971 %

Root relative squared error 44.3018 %

Total Number of Instances 1280

=== Detailed Accuracy By Class ===

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

0,948 0,046 0,960 0,948 0,954 0,901 0,967 0,963 1

0,954 0,052 0,940 0,954 0,947 0,901 0,967 0,950 0

Weighted Avg. 0,951 0,049 0,951 0,951 0,951 0,901 0,967 0,957

=== Confusion Matrix ===

a b <-- classified as

654 36 | a = 1

27 563 | b = 0

**RandomForest Classifier**

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

Correctly Classified Instances 1218 95.1563 %

Incorrectly Classified Instances 62 4.8438 %

Kappa statistic 0.9026

Mean absolute error 0.0651

Root mean squared error 0.1809

Relative absolute error 13.0986 %

Root relative squared error 36.2963 %

Total Number of Instances 1280

=== Detailed Accuracy By Class ===

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

0,949 0,046 0,960 0,949 0,955 0,903 0,994 0,995 1

0,954 0,051 0,941 0,954 0,948 0,903 0,994 0,992 0

Weighted Avg. 0,952 0,048 0,952 0,952 0,952 0,903 0,994 0,994

=== Confusion Matrix ===

a b <-- classified as

655 35 | a = 1

27 563 | b = 0

**Frequency Domain – Gamma – Dominance**

**NaiveBayes classifier**

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

Correctly Classified Instances 857 66.9531 %

Incorrectly Classified Instances 423 33.0469 %

Kappa statistic 0.337

Mean absolute error 0.3499

Root mean squared error 0.5399

Relative absolute error 70.4101 %

Root relative squared error 108.3069 %

Total Number of Instances 1280

=== Detailed Accuracy By Class ===

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

0,675 0,337 0,701 0,675 0,688 0,337 0,701 0,721 1

0,663 0,325 0,636 0,663 0,649 0,337 0,701 0,649 0

Weighted Avg. 0,670 0,331 0,671 0,670 0,670 0,337 0,701 0,688

=== Confusion Matrix ===

a b <-- classified as

466 224 | a = 1

199 391 | b = 0

**SVM(SMO) Classifier**

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

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

- **FilterType**: Standardize training data

- **Kernel:** PUK

Correctly Classified Instances 1259 98.3594 %

Incorrectly Classified Instances 21 1.6406 %

Kappa statistic 0.9669

Mean absolute error 0.0164

Root mean squared error 0.1281

Relative absolute error 3.3014 %

Root relative squared error 25.6959 %

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 0,036 0,970 1,000 0,985 0,967 0,982 0,970 1

0,964 0,000 1,000 0,964 0,982 0,967 0,982 0,981 0

Weighted Avg. 0,984 0,019 0,984 0,984 0,984 0,967 0,982 0,975

=== Confusion Matrix ===

a b <-- classified as

690 0 | a = 1

21 569 | b = 0

**İBK Classifier**

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

Correctly Classified Instances 1227 95.8594 %

Incorrectly Classified Instances 53 4.1406 %

Kappa statistic 0.9168

Mean absolute error 0.041

Root mean squared error 0.2008

Relative absolute error 8.251 %

Root relative squared error 40.2802 %

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 0,036 0,969 0,954 0,961 0,917 0,977 0,977 1

0,964 0,046 0,947 0,964 0,955 0,917 0,977 0,965 0

Weighted Avg. 0,959 0,041 0,959 0,959 0,959 0,917 0,977 0,972

=== Confusion Matrix ===

a b <-- classified as

658 32 | a = 1

21 569 | b = 0

**RandomForest Classifier**

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

Correctly Classified Instances 1229 96.0156 %

Incorrectly Classified Instances 51 3.9844 %

Kappa statistic 0.92

Mean absolute error 0.0619

Root mean squared error 0.1693

Relative absolute error 12.4587 %

Root relative squared error 33.9631 %

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 0,032 0,972 0,954 0,963 0,920 0,995 0,996 1

0,968 0,046 0,947 0,968 0,957 0,920 0,995 0,994 0

Weighted Avg. 0,960 0,039 0,960 0,960 0,960 0,920 0,995 0,995

=== Confusion Matrix ===

a b <-- classified as

658 32 | a = 1

19 571 | b = 0