

Results.

Accuracy.

TABLE 7.1: Accuracy in Percentage

| | | Train | | | | Test | | | |
|-------|-----|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|
| | | Valence | Arousal | Control | Prediction | Valence | Arousal | Control | Prediction |
| r | rf | 88.44 | 88.88 | 88.05 | 85.16 | 82.76 | 85.50 | 86.08 | 80.87 |
| | xgb | 89.97 | 86.61 | 90.33 | 86.42 | 85.80 | 85.70 | 87.73 | 83.51 |
| b | rf | 79.01 | 79.10 | 79.10 | 73.20 | 67.87 | 68.15 | 70.17 | 62.87 |
| | xgb | 82.47 | 80.85 | 80.58 | 77.21 | 71.27 | 70.21 | 72.54 | 66.95 |
| s | rf | 88.71 | 89.60 | 89.04 | 85.54 | 81.59 | 83.85 | 86.01 | 78.57 |
| | xgb | 90.92 | 92.33 | 91.67 | 90.55 | 84.68 | 87.56 | 86.84 | 85.60 |
| b_s | rf | 88.02 | 90.27 | 89.13 | 85.87 | 80.29 | 84.50 | 85.64 | 79.23 |
| | xgb | 90.92 | 92.33 | 91.67 | 90.55 | 84.68 | 87.56 | 86.84 | 85.60 |
| a_r | rf | 72.66 | 76.59 | 76.65 | 67.72 | 64.35 | 70.62 | 72.75 | 62.63 |
| | xgb | 73.95 | 76.81 | 79.85 | 74.13 | 69.32 | 72.61 | 76.86 | 70.93 |
| a_b | rf | 67.31 | 68.02 | 67.33 | 63.16 | 56.56 | 59.72 | 60.00 | 53.38 |
| | xgb | 64.36 | 65.87 | 66.45 | 62.40 | 55.54 | 58.18 | 59.44 | 54.20 |
| a_s | rf | 66.28 | 67.70 | 67.87 | 66.05 | 58.00 | 61.19 | 60.75 | 57.35 |
| | xgb | 65.20 | 66.93 | 67.96 | 64.44 | 58.48 | 61.23 | 61.40 | 56.91 |
| a_b_s | rf | 66.27 | 68.43 | 67.67 | 66.60 | 57.32 | 62.11 | 60.37 | 57.56 |
| | xgb | 65.20 | 66.94 | 67.96 | 64.44 | 58.48 | 61.23 | 61.40 | 56.91 |

Results.

Precision and Recall.

TABLE 7.2: Precision and Recall of Test Dataset

| | | Precision | | | | Recall | | | |
|-------|-----|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|
| | | Valence | Arousal | Control | Prediction | Valence | Arousal | Control | Prediction |
| r | rf | 0.83 | 0.86 | 0.87 | 0.83 | 0.83 | 0.85 | 0.86 | 0.81 |
| | xgb | 0.86 | 0.86 | 0.88 | 0.85 | 0.86 | 0.86 | 0.88 | 0.84 |
| b | rf | 0.69 | 0.69 | 0.70 | 0.67 | 0.68 | 0.68 | 0.70 | 0.63 |
| | xgb | 0.72 | 0.71 | 0.73 | 0.69 | 0.71 | 0.70 | 0.73 | 0.67 |
| s | rf | 0.83 | 0.84 | 0.86 | 0.84 | 0.82 | 0.84 | 0.86 | 0.79 |
| | xgb | 0.85 | 0.88 | 0.87 | 0.86 | 0.85 | 0.88 | 0.87 | 0.86 |
| b_s | rf | 0.82 | 0.85 | 0.86 | 0.84 | 0.80 | 0.85 | 0.86 | 0.79 |
| | xgb | 0.85 | 0.88 | 0.87 | 0.86 | 0.85 | 0.88 | 0.87 | 0.86 |
| a | rf | 0.67 | 0.71 | 0.73 | 0.70 | 0.64 | 0.71 | 0.73 | 0.63 |
| | xgb | 0.70 | 0.74 | 0.77 | 0.74 | 0.69 | 0.73 | 0.77 | 0.71 |
| a_b | rf | 0.58 | 0.60 | 0.60 | 0.57 | 0.57 | 0.60 | 0.60 | 0.53 |
| | xgb | 0.56 | 0.58 | 0.59 | 0.56 | 0.56 | 0.58 | 0.59 | 0.54 |
| a_s | rf | 0.59 | 0.61 | 0.61 | 0.61 | 0.58 | 0.61 | 0.61 | 0.57 |
| | xgb | 0.59 | 0.61 | 0.62 | 0.58 | 0.58 | 0.61 | 0.61 | 0.57 |
| a_b_s | rf | 0.58 | 0.62 | 0.61 | 0.61 | 0.57 | 0.62 | 0.60 | 0.58 |
| | xgb | 0.59 | 0.61 | 0.62 | 0.58 | 0.58 | 0.61 | 0.61 | 0.57 |