MYSTETH - Home-based Heart Monitoring

**Results**

**Table 2** Evaluation metrics for Mysteth for classifying heart sounds into Normal Heartbeat, and Murmur.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Model** | **Accuracy** | **Precision** | **Recall** | **F1 Score** | **ROC-AUC** |
| BiLSTM | 68% | 0.68 | 1.00 | 0.81 | 0.50 |
| CNN | 72% | 1.00 | 0.05 | 0.10 | 0.53 |
| BiGRU | 88% | 0.98 | 0.17 | 0.30 | 0.59 |
| CNN and LSTM | 92% | 0.73 | 0.93 | 0.82 | 0.93 |

**Table 3** Evaluation Metrics for Mysteth for classifying murmurs into Systolic Murmur and Diastolic Murmur.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Model** | **Accuracy** | **Precision** | **Recall** | **F1 Score** | **ROC-AUC** |
| CNN | 68% | 0.50 | 0.55 | 0.52 | 0.48 |
| BiLSTM | 72% | 0.88 | 0.05 | 0.10 | 0.52 |
| BiGRU | 84% | 0.65 | 0.95 | 0.77 | 0.70 |
| CNN and LSTM | 91% | 0.80 | 0.70 | 0.75 | 0.83 |

**Table 4** Evaluation Metrics for Mysteth for classifying systolic murmurs further into PSM, ESM using various models.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Model** | **Accuracy** | **Precision** | **Recall** | **F1 Score** | **ROC-AUC** |
| BiLSTM | 51% | 0.31 | 0.25 | 0.28 | 0.30 |
| BiGRU | 62% | 0.43 | 0.42 | 0.41 | 0.36 |
| CNN and LSTM | 71% | 0.60 | 0.54 | 0.56 | 0.54 |
| CNN | 90% | 0.68 | 0.74 | 0.71 | 0.70 |