| Model Performance for SNR 6 dB | # Features | Block length (s) | Logistic regression | Fine tree | Medium tree | Coarse tree | Boosted trees ensemble | Bagged trees ensemble | Linear SVM | Quadratic SVM | Cubic SVM | Fine Gaussian SVM | Medium Gaussian SVM | Coarse Gaussian SVM | Subspace KNN | Neural Net | CNN | LSTM NN |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Cepstral | 13 | 1 | 75.8% | 83.1% | 81.1% | 75.6% | 85.0% | 86.8% | 77.2% | 87.3% | 89.1% | 85.7% | 88.0% | 80.4% | | | | |
| Cepstral | 13 | 2 | 78.3% | 85.2% | 82.5% | 76.3% | 86.3% | 88.2% | 79.0% | 89.5% | 91.9% | 88.6% | 89.3% | 80.5% | | 86.7% | | |
| Cepstral | 26 | 1 | 78.0% | 81.8% | 78.9% | 75.6% | 85.0% | 85.5% | 79.0% | 88.8% | 89.7% | 76.3% | 88.1% | 79.7% | | | | |
| Cepstral | 26 | 2 | 80.2% | 85.2% | 81.4% | 74.3% | 85.9% | 88.3% | 80.4% | 90.7% | 92.8% | 80.9% | 90.3% | 79.7% | | 92.5% | | 61.8% |
| 1/3 Octaves | 29 | 1 | 70.7% | 83.7% | 80.2% | 75.3% | 85.1% | 89.0% | 70.3% | 77.5% | 81.2% | 71.9% | 75.4% | 70.1% | | | | |
| 1/3 Octaves | 29 | 2 | 72.8% | 87.5% | 82.8% | 77.3% | 87.5% | 91.9% | 71.7% | 79.7% | 83.8% | 76.6% | 76.5% | 71.5% | | 71.5% | | |
| Octaves | 10 | 1 | 67.3% | 82.0% | 79.4% | 72.7% | 82.2% | 86.3% | 66.6% | 76.4% | 80.0% | 78.0% | 75.6% | 66.8% | | | | |
| Octaves | 10 | 2 | 67.8% | 84.7% | 80.6% | 73.7% | 84.2% | 89.0% | 66.5% | 77.0% | 81.2% | 81.1% | 76.8% | 66.9% | | 77.4% | | |
| MFCC | 13 | 2 | 76.3% | 82.0% | 78.2% | 72.1% | 83.5% | 85.3% | 76.8% | 85.2% | 87.4% | 83.8% | 87.0% | 77.0% | | | | |
| MFCC | 13 | 1 | 74.1% | 80.4% | 78.9% | 68.8% | 81.6% | 82.9% | 75.3% | 83.0% | 84.6% | 80.5% | 84.8% | 76.4% | | 77.5% | | |
| FFT (25 Hz resolution) | 799 | 0.041 | 61.3% | 78.4% | 75.8% | 70.0% | | | | | | | | | | | | |
| FFT (100 Hz resolution) | 200 | 0.01 | 68.3% | 76.8% | 74.0% | 69.6% | | | | | | | | | | | | |
| CWT Scalogram | 150528 | 1 | | | | | | | | | | | | | | | 92.9% | |
| CWT Scalogram | 150528 | 3 | | | | | | | | | | | | | | | 85.1% | |
| CWT Scalogram | 150528 | 5 | | | | | | | | | | | | | | | 83.3% | |
| CWT Scalogram Bag of Features | 500 | 1 | 81.0% | 75.5% | 74.2% | 73.3% | 82.1% | 82.0% | 83.1% | 86.4% | 87.1% | 60.5% | 86.1% | 79.9% | | | | |
| CWT Scalogram Bag of Features | 500 | 3 | 80.7% | 73.2% | 73.7% | 75.3% | 84.8% | 82.7% | 86.7% | 87.7% | 88.6% | 59.1% | 87.9% | 81.6% | | | | |
| CWT Scalogram Bag of Features | 500 | 5 | 55.0% | 73.0% | 74.1% | 70.6% | 82.3% | 81.7% | 88.0% | 89.4% | 90.9% | 60.2% | 87.7% | 81.6% | | | | |
| DWT (Coiflet2, 4 levels) | 17 | 1 | 64.1% | 90.3% | 86.5% | 81.3% | 89.5% | 91.9% | 77.1% | 81.1% | 51.6% | 81.2% | 77.6% | 66.1% | 70.7% | | | 76.4% |
| DWT (Coiflet2, 4 levels) | 17 | 2 | 65.8% | 90.2% | 85.2% | 80.7% | 89.7% | 92.6% | 78.0% | 82.9% | 60.7% | 81.4% | 78.8% | 73.5% | 70.0% | 88.1% | | 78.2% |
| DWT (Coiflet2, 5 levels, Hampel Filter) | 49 | 2 | 80.4% | 91.7% | 88.7% | 79.3% | | 94.0% | 82.0% | 87.9% | -- | 87.6% | 83.8% | 76.8% | 76.5% | 95.9% | | |
| DWT (Coiflet2, 3 levels, Hampel Filter) | 13 | 2 | 67.1% | 89.7% | 87.5% | 78.1% | 89.6% | 92.9% | 79.0% | 84.4% | 52.0% | 85.9% | 81.1% | 76.5% | 81.3% | 93.9% | | |
| DWT (Debauchies4, 4 levels) | 17 | 1 | 64.4% | 90.1% | 86.0% | 81.1% | 88.9% | 91.6% | 77.2% | 80.6% | 51.4% | 81.5% | 77.6% | 66.1% | 71.1% | | | |
| DWT (Haar, 4 levels) | 17 | 1 | 53.8% | 77.0% | 73.1% | 68.7% | 76.4% | 80.5% | 71.5% | 76.4% | 58.7% | 76.1% | 73.9% | 70.4% | 67.1% | | | |
| DWT (Coiflet2, 4 levels, no entropy) | 13 | 2 | 71.6% | 90.6% | 85.7% | 81.6% | 88.3% | 92.1% | 79.2% | 57.1% | 49.9% | 76.3% | 67.9% | 61.0% | 54.1% | | | |
| DWT (Coiflet2, 2 levels) | 7 | 2 | 70.1% | 89.0% | 84.6% | 78.9% | 88.2% | 92.3% | 68.8% | 71.8% | 53.9% | 77.7% | 74.0% | 61.5% | 73.7% | | | |