|  |  |  |  |
| --- | --- | --- | --- |
| Gradient boosting | Raw / 0.4 | Filter / 0.4 | ASR / 0.4 |
| All channel&all feature | 0.49 | 0.44 | 0.24 |
| F part channel&all feature | 0.53 | 0.38 | 0.24 |
| All channel &hybrid feature | 0.58 | 0.47 | 0.29 |
| F part channel&hybrid feature | 0.47 | 0.47 | 0.2 |

|  |  |  |  |
| --- | --- | --- | --- |
| Decision Tree | Raw / 0.4 | Filter / 0.4 | ASR / 0.4 |
| All channel&all feature | 0.56 | 0.44 | 0.24 |
| F part channel&all feature | 0.4 | 0.4 | 0.29 |
| All channel &hybrid feature | 0.44 | 0.47 | 0.18 |
| F part channel&hybrid feature | 0.42 | 0.4 | 0.24 |

(準確率浮動較大)

|  |  |  |  |
| --- | --- | --- | --- |
| KNN | Raw / 0.4 | Filter / 0.4 | ASR / 0.4 |
| All channel&all feature | 0.18 | 0.29 | 0.29 |
| F part channel&all feature | 0.24 | 0.29 | 0.24 |
| All channel &hybrid feature | 0.33 | 0.31 | 0.18 |
| F part channel&hybrid feature | 0.38 | 0.29 | 0.24 |

(準確率穩定)

各類情緒分類

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Gradient boosting | Boring | Calm | Horror | Funny |
| All channel&all feature\_raw | 0.45 | 0.54 | 0.38 | 0.6 |
| F part channel&all feature\_raw | 0.71 | 0.4 | 0.46 | 0.7 |
| All channel &hybrid feature\_raw | 0.5 | 0.78 | 0.42 | 0.73 |
| F part channel&hybrid feature\_raw | 0.33 | 0.54 | 0.46 | 0.5 |
| All channel&all feature\_filtered | 0.5 | 0.58 | 0.29 | 0.5 |
| F part channel&all feature\_filtered | 0.71 | 0.62 | 0.22 | 0.25 |
| All channel &hybrid feature\_ filtered | 0.62 | 0.55 | 0.33 | 0.45 |
| F part channel&hybrid feature\_ filtered | 0.83 | 0.43 | 0.33 | 0.5 |
| All channel&all feature\_ asr | 0.3 | 0.31 | 0.1 | 0.25 |
| F part channel&all feature\_ asr | 0.25 | 0.42 | 0 | 0.3 |
| All channel &hybrid feature\_ asr | 0.36 | 0.36 | 0.18 | 0.25 |
| F part channel&hybrid feature\_ asr | 0.18 | 0.36 | 0 | 0.22 |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Decision Tree | Boring | Calm | Horror | Funny |
| All channel&all feature\_raw | 0.64 | 0.62 | 0.42 | 0.55 |
| F part channel&all feature\_raw | 0.4 | 0.46 | 0.36 | 0.38 |
| All channel &hybrid feature\_raw | 0.33 | 0.5 | 0.36 | 0.67 |
| F part channel&hybrid feature\_raw | 0.36 | 0.67 | 0.36 | 0.67 |
| All channel&all feature\_filtered | 0.67 | 0.47 | 0.27 | 0.56 |
| F part channel&all feature\_filtered | 0.29 | 0.43 | 0.45 | 0.38 |
| All channel &hybrid feature\_ filtered | 0.5 | 0.43 | 0.4 | 0.5 |
| F part channel&hybrid feature\_ filtered | 0.36 | 0.42 | 0.44 | 0.38 |
| All channel&all feature\_ asr | 0.56 | 0.2 | 0.2 | 0.09 |
| F part channel&all feature\_ asr | 0.5 | 0.12 | 0.29 | 0.23 |
| All channel &hybrid feature\_ asr | 0.27 | 0.11 | 0.22 | 0.08 |
| F part channel&hybrid feature\_ asr | 0.33 | 0.1 | 0.2 | 0.31 |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| KNN | Boring | Calm | Horror | Funny |
| All channel&all feature\_raw | 0.38 | 0.15 | 0.17 | 0 |
| F part channel&all feature\_raw | 0.38 | 0.22 | 0.25 | 0.17 |
| All channel &hybrid feature\_raw | 0.44 | 0.33 | 0.31 | 0.2 |
| F part channel&hybrid feature\_raw | 0.38 | 0.32 | 0.44 | 0.5 |
| All channel&all feature\_filtered | 0.57 | 0.25 | 0.18 | 0.27 |
| F part channel&all feature\_filtered | 0.3 | 0.32 | 0.38 | 0.12 |
| All channel &hybrid feature\_ filtered | 0.3 | 0.27 | 0.29 | 0.38 |
| F part channel&hybrid feature\_ filtered | 0.33 | 0.28 | 0.5 | 0.22 |
| All channel&all feature\_ asr | 0.31 | 0.26 | 0.33 | 0.29 |
| F part channel&all feature\_ asr | 0.27 | 0.28 | 0 | 0.2 |
| All channel &hybrid feature\_ asr | 0.09 | 0.21 | 0.5 | 0.12 |
| F part channel&hybrid feature\_ asr | 0.31 | 0.21 | 0.25 | 0.18 |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Model | Accuracy | precision | recall | F1 Score |
| Gradient boosting | 0.58 | 0.61 | 0.58 | 0.57 |
| Decision Tree | 0.56 | 0.59 | 0.56 | 0.56 |
| KNN | 0.38 | 0.41 | 0.29 | 0.29 |

|  |  |  |
| --- | --- | --- |
| Model | Mean Accuracy | STD |
| Gradient boosting | 0.715 | 0.102 |
| Decision Tree | 0.402 | 0.157 |
| KNN | 0.107 | 0.060 |