2.3 Performance between the F-test and the Rayleigh in Predicting Audibility

2.3.1 F-test in Predicting Audibility

Based on the results of (2.2), we can get the table as follows:

|  |  |  |
| --- | --- | --- |
| predicted  reality | True(Audible) | FALSE(inaudible) |
| TRUE(audible) | 0.6339286 | 0.3660714 |
| Flase(inaudible) | 0.04464286 | 0.9553571 |

Table F-test Accuracy

2.3.2 Rayleigh in Predicting Audibility

Based on the results of (2.2), we can get the table as follows:

|  |  |  |
| --- | --- | --- |
| predicted  reality | True(Audible) | FALSE(inaudible) |
| TRUE(audible) | 0.6785714 | 0.3214286 |
| Flase(inaudible) | 0.08928571 | 0.9107143 |

Table Rayleigh-test Accuracy

2.3.3 Combination of F-test and Rayleigh in Predicting Audibility

Based on the results of (2.2), we can get the table as follows:

|  |  |  |
| --- | --- | --- |
| predicted  reality | True(Audible) | FALSE(inaudible) |
| TRUE(audible) | 0.6125 | 0.3875 |
| Flase(inaudible) | 0.02678571 | 0.9732143 |

Table Combination of F-test and Rayleigh-test Accuracy

2.3.4 Conclusions

Making a comparison of the three tables, we draw the following conclusions:

1. Rayleigh-test has higher accuracy of predicting audibility on the audible stimulus.
2. F-test has higher accuracy of predicting audibility on the inaudible stimulus.
3. If we combine the results of F-test and Rayleigh-test, then the accuracy of prediction on both audible and inaudible stimulus will be higher than based on one test.
4. The combination of two test will make the accuracy of predicting audibility on the inaudible stimulus higher, but accuracy of predicting audibility on the audible stimulus lower.
5. Once we have a higher accuracy of predicting audibility on the inaudible stimulus, accuracy of predicting audibility on the audible stimulus will become lower. They are negative related.