|  |  |
| --- | --- |
| Method | Elimination rate (%) |
| QF | 17 |
| iForest | 27.47 |
| GMM | 15 |
| LOF | 12 |

|  |  |  |  |
| --- | --- | --- | --- |
| Model | No of Nodes | MAE | R2 |
| MLP-NN | 1 | 20.07 | 0.9950 |
| RBF-NN | 1 | 21.00 | 0.9949 |
| XGBoost | - | 19.53 | 0.9953 |

Mariano-preve

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Dataset | SC | q | Significance (α) | P-value | Decision |
| DATA 1 | 0.28449 | 3 | 0.05 | 0.8672 | accept H0 |
| DATA 2 | 3.0217 | 3 | 0.05 | 0.2207 | Reject H0 |

Cocharin’s test

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| Dataset | Population | P | α | Z |  |  | Sample size |
| DATA 1 | 56, 560 | 0.5 | 0.1 | 1.65 | 0.1 | 68.2 | 65 |
| DATA 2 | 56, 500 | 0.5 | 0.1 | 1.65 | 0.1 | 67.4 | 64 |

|  |  |  |  |
| --- | --- | --- | --- |
| Dataset 1 | | | |
| Bin (m/s) | (watt) | (watt) |  |
| 2.5-5.0 | 10 | 10 | 100 |
| 5.0-7.5 | 150 | 500 | 0.3 |
| 7.5-10.0 | 150 | 1050 | 0.14 |
| 10.0-12.5 | 150 | 1750 | 0.085 |
| 12.5-15.0 | 120 | 2000 | 0.06 |
| 15.0-17.5 | 120 | 2000 | 0.06 |
| 17.5-20.0 | 120 | 2000 | 0.06 |
| 20.0-22.5 | 120 | 2000 | 0.06 |
| 22.5-25.0 | 120 | 2000 | 0.06 |

|  |  |  |  |
| --- | --- | --- | --- |
| Dataset 2 | | | |
| Bin (m/s) |  |  |  |
| 2.5-5.0 | 5 | 5 | 100 |
| 5.0-7.5 | 100 | 500 | 0.200 |
| 7.5-10.0 | 135 | 1000 | 0.121 |
| 10.0-12.5 | 140 | 1550 | 0.090 |
| 12.5-15.0 | 125 | 1950 | 0.064 |
| 15.0-17.5 | 125 | 1950 | 0.064 |
| 17.5-20.0 | 125 | 1950 | 0.064 |
| 20.0-22.5 | 125 | 1950 | 0.064 |
| 22.5-25.0 | 125 | 1950 | 0.064 |

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Dataset | Bin(m/s) | Nature of Sample | Sample Time |  |  |  | P-value | Decision |
| Data 1 | 10-12.5 | Normal | 05/06/2020 | 0.090 | 0.0876 | 0.115 | 0.6788 | Accept H0 |
| Data 1 | 12.5-15 | Normal | 01/07/2020 | 0.064 | 0.0459 | 0.1455 | 0.9986 | Accept H0 |
| Data 1 | 10-12.5 | Faulty | 03/11/2020 | 0.090 | 0.178 | 0.115 | 0.0248 | **Reject** H0 |
| Data 2 | 10-12.5 | Normal | 15/03/2020 | 0.090 | 0.0831 | 0.115 | 0.7394 | Accept H0 |
| Data 2 | 12.5-15 | Normal | 19/09/2020 | 0.064 | 0.1235 | 0.1455 | 0.2360 | Accept H0 |
| Data 2 | 12.5-15 | Faulty | 01/06/2020 | 0.064 | 0.1787 | 0.1455 | 0.0248 | **Reject** H0 |