0.714 99.8% 0.909 0.800 Overall Accuracy Precision Recall

False Positives

Accuracy

99.8%

100.0%

100.0%

100.0%

10/11

Anomalies Detected

Summary

0.002

MSE

Type

normal

false_positive

bearing failure

pressure drop

Accuracy by Data Type

Model Evaluation Report: ANN Model

Analysis of prediction results for compressor anomaly detection.

overheating 100.0% voltage fluctuation 80.0% 5 motor imbalance 100.0% 2 2 **Classification Performance** Confusion Matrix - ANN Model Normal 2170 4

0.002

MAE

Total

2157

11

3

5

0.502

AUC-ROC

F1 Score

Correctly Classified

2153

11

3

5

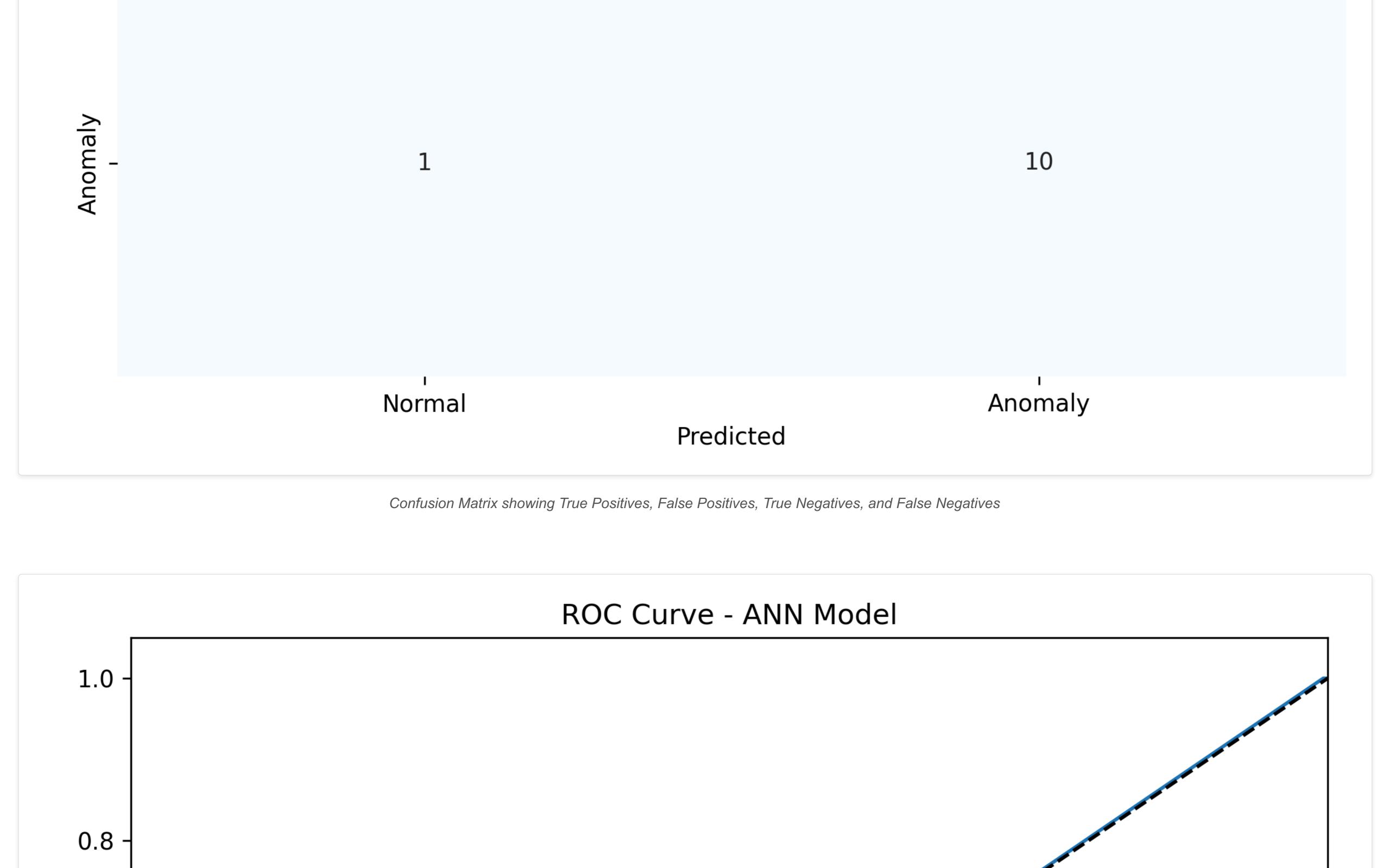
True Positive Rate

0.0

1.0 -

0.8 -

Precision 0



0.2 -AUC = 0.502

False Positive Rate

Precision-Recall Curve - ANN Model

Average Precision: 0.005

Receiver Operating Characteristic (ROC) Curve - AUC: 0.502

0.4

0.6

8.0

high

Temp: 82.5°C, Vib: 2.66 mm/s, Press: 7.37 bar, Curr: 50.0 A

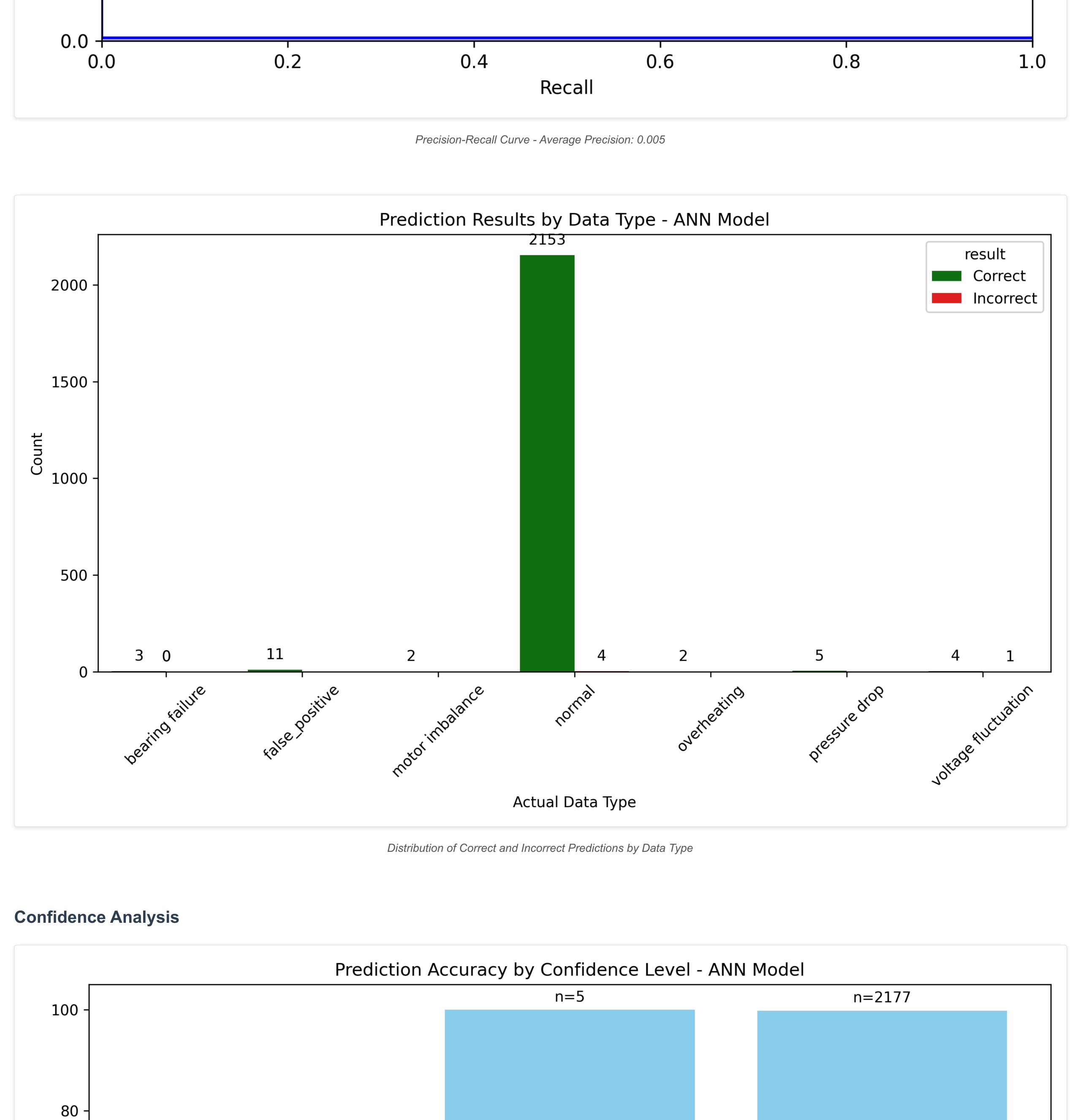
Temp: 93.4°C, Vib: 2.48 mm/s, Press: 6.9 bar, Curr: 50.0 A

Temp: 83.6°C, Vib: 2.74 mm/s, Press: 7.13 bar, Curr: 50.0 A

Temp: 103.7°C, Vib: 2.17 mm/s, Press: 6.68 bar, Curr: 50.0 A

Temp: 84.6°C, Vib: 1.61 mm/s, Press: 6.48 bar, Curr: 50.0 A

0.2



Parameter Distributions

Correct

Incorrect

Timeline Analysis

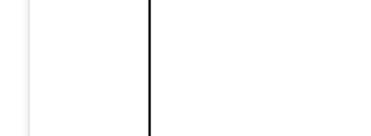
Accuracy (%)

60 -

20 -

n=3

low



2024-05-30 06:00:00

2024-05-22 15:00:00

2024-05-31 01:00:00

2024-05-29 12:00:00

2024-05-26 14:00:00

NORMAL VALUE

NORMAL VALUE

NORMAL VALUE

NORMAL VALUE

ANOMALY

ANOMALY

ANOMALY

ANOMALY

ANOMALY

NORMAL VALUE

Prediction											
2024-03-01		2024-04-01			2020	4-05-01			202	4-06-01	
Sample Predictions Correct Predictions											
Datetime	Actual	Predicted	Туре	Confidence	Key Pa	Key Parameters					
2024-05-26 03:00:00	NORMAL VALUE	NORMAL VALUE	-	high	Temp: 6	Temp: 64.0°C, Vib: 2.15 mm/s, Press: 6.87 bar, Curr: 50.0 A					
2024-04-01 20:00:00	NORMAL VALUE	NORMAL VALUE	-	high	Temp: 7	Temp: 77.7°C, Vib: 1.88 mm/s, Press: 7.21 bar, Curr: 94.94 A					
2024-03-26 01:00:00	NORMAL VALUE	NORMAL VALUE	-	high	Temp: 8	Temp: 85.5°C, Vib: 1.84 mm/s, Press: 7.19 bar, Curr: 74.05 A					
2024-05-02 19:00:00	NORMAL VALUE	NORMAL VALUE	-	high	Temp: 8	Temp: 89.3°C, Vib: 1.96 mm/s, Press: 6.97 bar, Curr: 99.46 A					
2024-04-28 03:00:00	NORMAL VALUE	NORMAL VALUE	-	high	Temp: 6	Temp: 68.9°C, Vib: 1.86 mm/s, Press: 6.59 bar, Curr: 59.01 A					
Incorrect Predictions											
Datetime	Actual	Predicted	Туре	Type Confid		Key Parameters					

voltage fluctuation

voltage fluctuation

voltage fluctuation

voltage fluctuation

low

high

high

high

high

medium

Confidence Level

Relationship between Confidence Level and Prediction Accuracy

Timeline of Predictions - ANN Model