

Navigation:

- Threshholds & Model Info
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# Predictive Maintenance Dashboard

## Alert Thresholds

WARNING Alert Threshold: 40 cycles  
CRITICAL Alert Threshold: 20 cycles

### Model Configuration

Report Generated: 2025-11-03 15:40:09  
Version: v2.0\_Enhanced

Model Type: Hybrid CNN Bidirectional LSTM  
Window Size: 30  
CNN Filters Layer1: 64  
CNN Filters Layer2: 32  
LSTM Units Layer1: 64  
LSTM Units Layer2: 32  
Dense Units Layer1: 64  
Dense Units Layer2: 32  
Dropout Rate CNN: 0.2  
Dropout Rate LSTM: 0.3  
Dropout Rate Dense: 0.3  
Learning Rate: 0.001  
Batch Size: 64  
Max Epochs: 100  
Early Stopping Patience: 15  
LR Reduction Patience: 5  
LR Reduction Factor: 0.5

«

Deploy

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## Evaluation Metrics

```
Mean Absolute Error (MAE): 285.7981 cycles
Mean Squared Error (MSE): 85421.8516
Root Mean Squared Error (RMSE): 292.2782 cycles
R² Score: -22.8081
```

```
Error Analysis:
Mean Error: -285.7981 cycles
Std of Errors: 61.2837 cycles
Min Error: -301.2376 cycles
Max Error: -100.2958 cycles
```

## Alert System Performance

```
-----  
ALERT SYSTEM PERFORMANCE REPORT  
-----  
  
Report Generated: 2025-11-03 15:48:00  
Version: v2.0_Enhanced  
  
Overall Alert Accuracy: 81.60%  
  
Alert Thresholds:  
CRITICAL: RUL < 20 cycles  
WARNING: 20 <= RUL < 40 cycles  
NORMAL: RUL >= 40 cycles  
  
Alert Classification Distribution:
```

<<

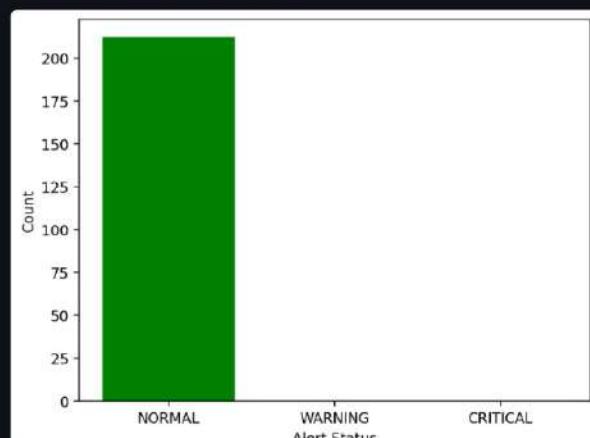
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## Predictive Maintenance Dashboard

### Alert Status Distribution



Status	Count	Percentage
0 NORMAL	212	300
1 WARNING	0	0
2 CRITICAL	0	0

<<

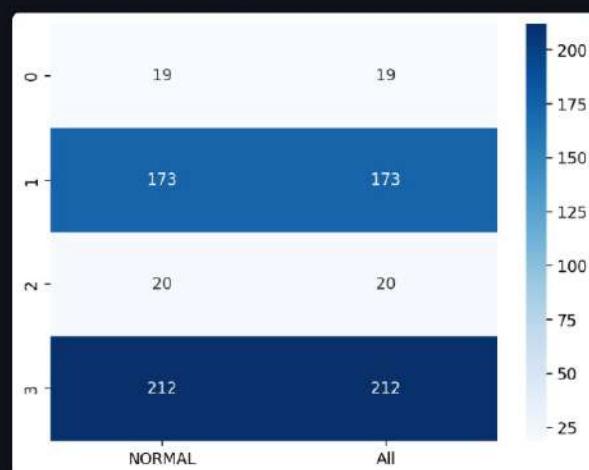
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## Predictive Maintenance Dashboard

### Alert Confusion Matrix



Dashboard last updated: 2025-11-04 20:56:15.89885



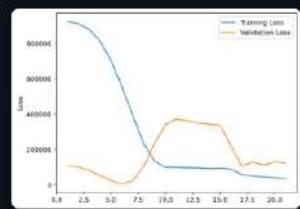
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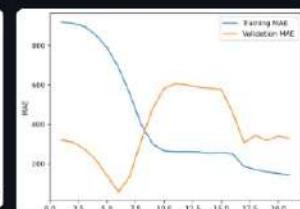
## Predictive Maintenance Dashboard

### Training History

Loss over Epochs

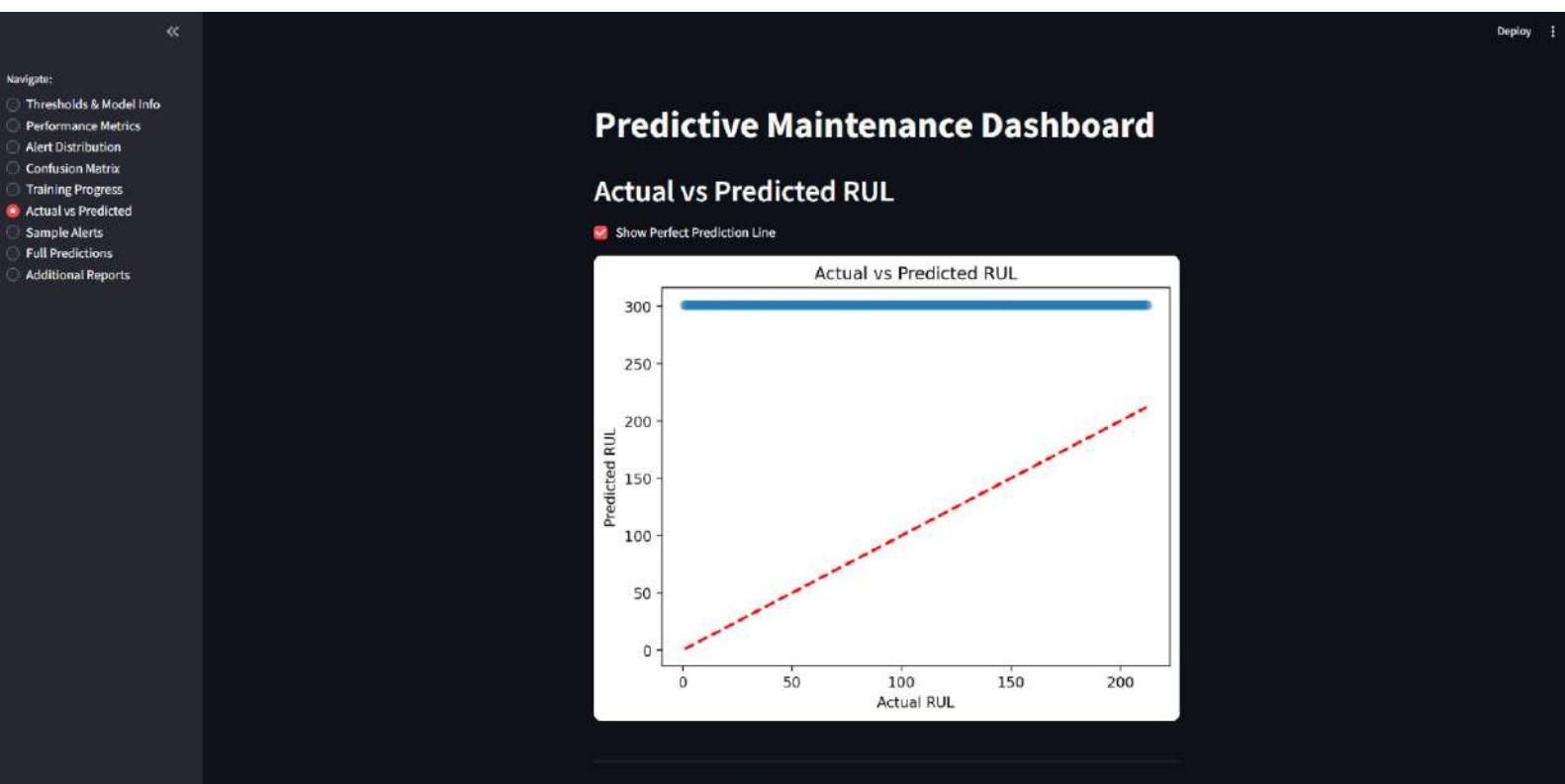


MAE over Epochs



Dashboard last updated: 2025-11-01 20:56:27.903655

Streamlit Version: 1.51.0



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## Predictive Maintenance Dashboard

### First 20 Maintenance Alerts

Filter alert status

**NORMAL** X

Sample_Index	Predicted_RUL	Actual_RUL	Alert_Status
0	392.295870	212	NORMAL
1	392.254280	211	NORMAL
2	392.358460	210	NORMAL
3	392.358220	209	NORMAL
4	392.360960	208	NORMAL
5	392.339540	207	NORMAL
6	392.225470	206	NORMAL
7	392.282680	205	NORMAL
8	392.206180	204	NORMAL
9	392.225460	203	NORMAL

Dashboard last updated: 2025-11-04 20:57:06.928748

Streamlit Version: 1.51.0

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# Predictive Maintenance Dashboard

## Additional Details

System Performance

ALERT SYSTEM PERFORMANCE REPORT

Report Generated: 2025-11-03 15:48:09  
Version: v2.0\_Enhanced

Overall Alert Accuracy: 81.60%

Alert Thresholds:

CRITICAL:	RUL < 20 cycles
WARNING:	20 >= RUL < 40 cycles
NORMAL:	RUL >= 40 cycles

Alert Classification Distribution:

	Predicted	NORMAL	All
Actual			
CRITICAL	19	19	38
NORMAL	173	173	346
WARNING	20	20	40
All	212	212	444

INTERPRETATION GUIDE

- High accuracy indicates reliable maintenance scheduling
- False CRITICAL alerts at unnecessary maintenance costs