👁️ Eye-Tracking Data Preprocessing & Recommendations

Upload your CSV file

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📄 Frage 1_001_Anonymous 09-05-23 12h04m.csv   1.6MB   ✕

File successfully uploaded.

Data Preview

	Timestamp	EventSource	SlideEvent	StimType	Duration	CollectionPhase	SourceStimuliName	EventSource.1	CPU Sys	Memory Sys	CPU Proc	Memory Proc	EventSource.2	ET
0	30.9133	1	StartSlide	TestImage	90,000	StimuliDisplay	Frage 1	None	None	None	None	None	None	
1	32.508	None	None	None	None	None	Frage 1	None	None	None	None	None	1	
2	49.1635	None	None	None	None	None	Frage 1	None	None	None	None	None	1	
3	65.8267	None	None	None	None	None	Frage 1	None	None	None	None	None	1	
4	82.474	None	None	None	None	None	Frage 1	None	None	None	None	None	1	

Select Features to Analyze

Choose numerical features

Gaze X ✕   Gaze Y ✕   ⊗ ⌄

🔍 Select Feature for Preview
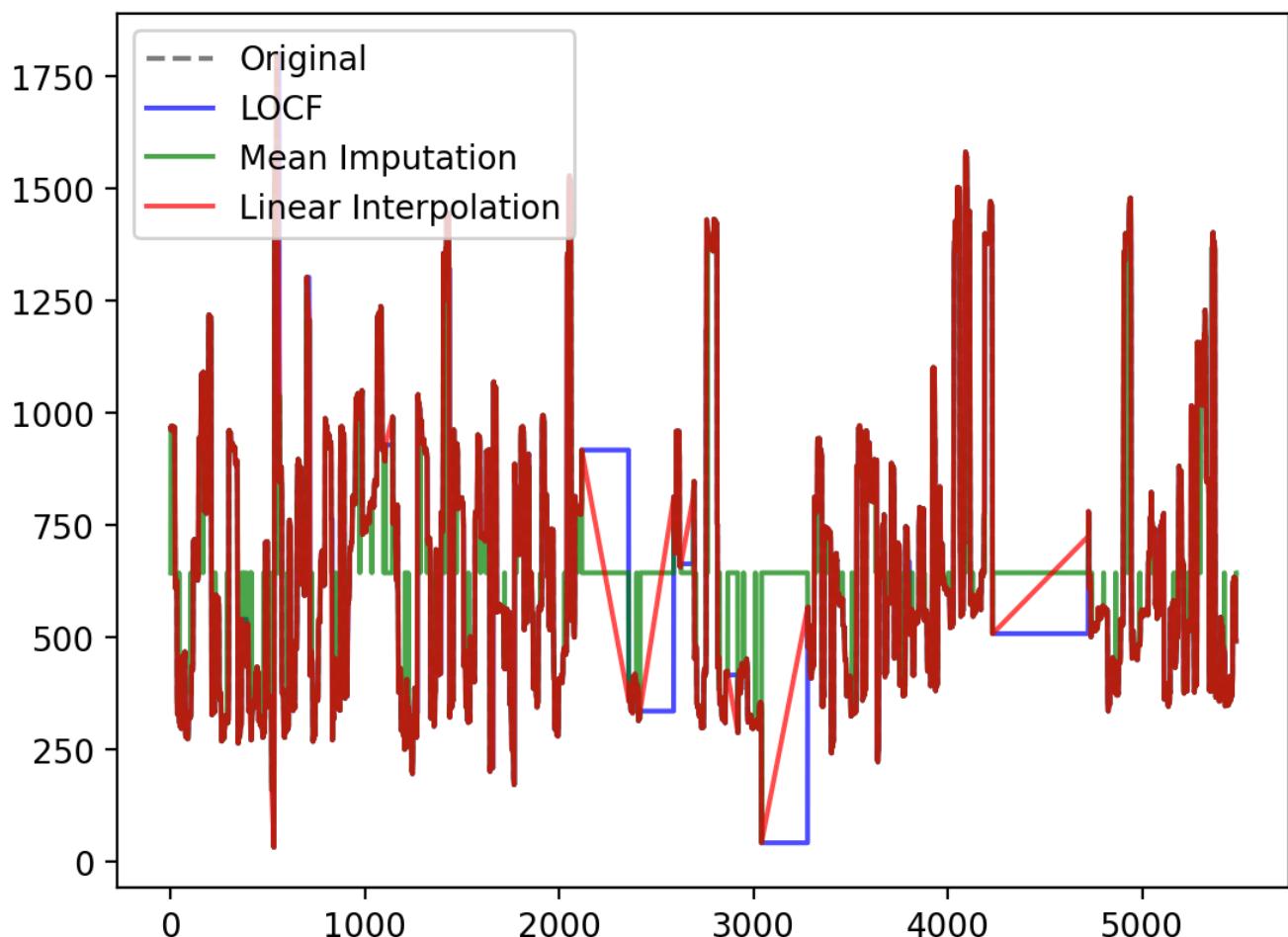
Gaze X   ⌄

Select Missing Value Methods to Compare

LOCF ✕   Mean Imputation ✕   Linear Interpolat… ✕   ⊗ ⌄

🧪 Missing Value Strategy Preview

☑ Apply this MV method for next steps

| KNN Imputation | ⌄ |

Recommendation:

> Missing Values: High missingness – consider feature removal

🐟 Preview: Outlier Detection

Select Outlier Methods to Compare

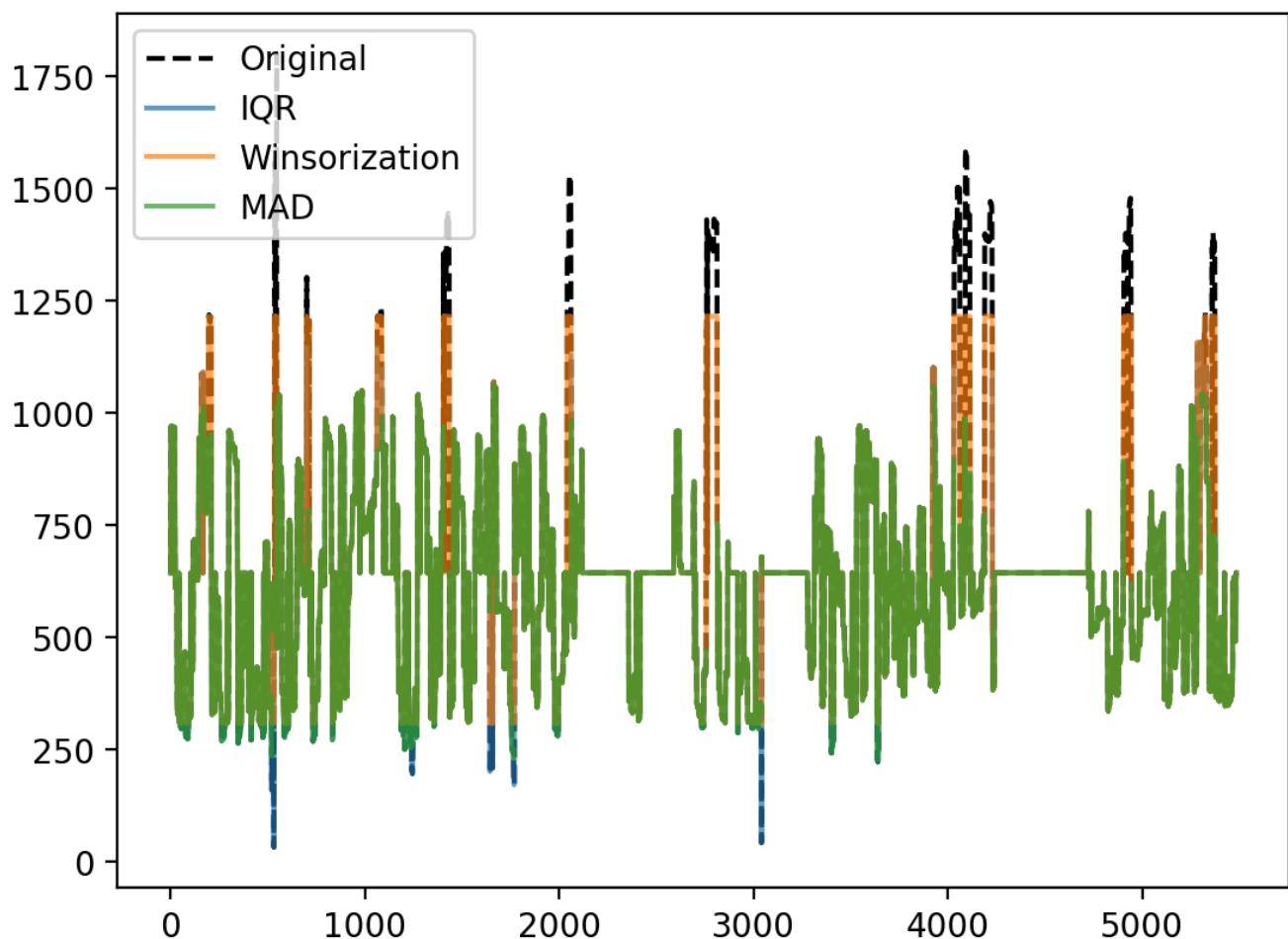| IQR × | Winsorization × | MAD × | ⊗ ⌄ |

☑ Apply this Outlier Method

| Z-Score | ⌄ |

Z-Score threshold

                                              3.00
●━━●━━━━━━━━━━━━
1.00   5.00

Isolation Forest contamination

              0.10
●━━━━━━━━━●━━
0.01   0.50

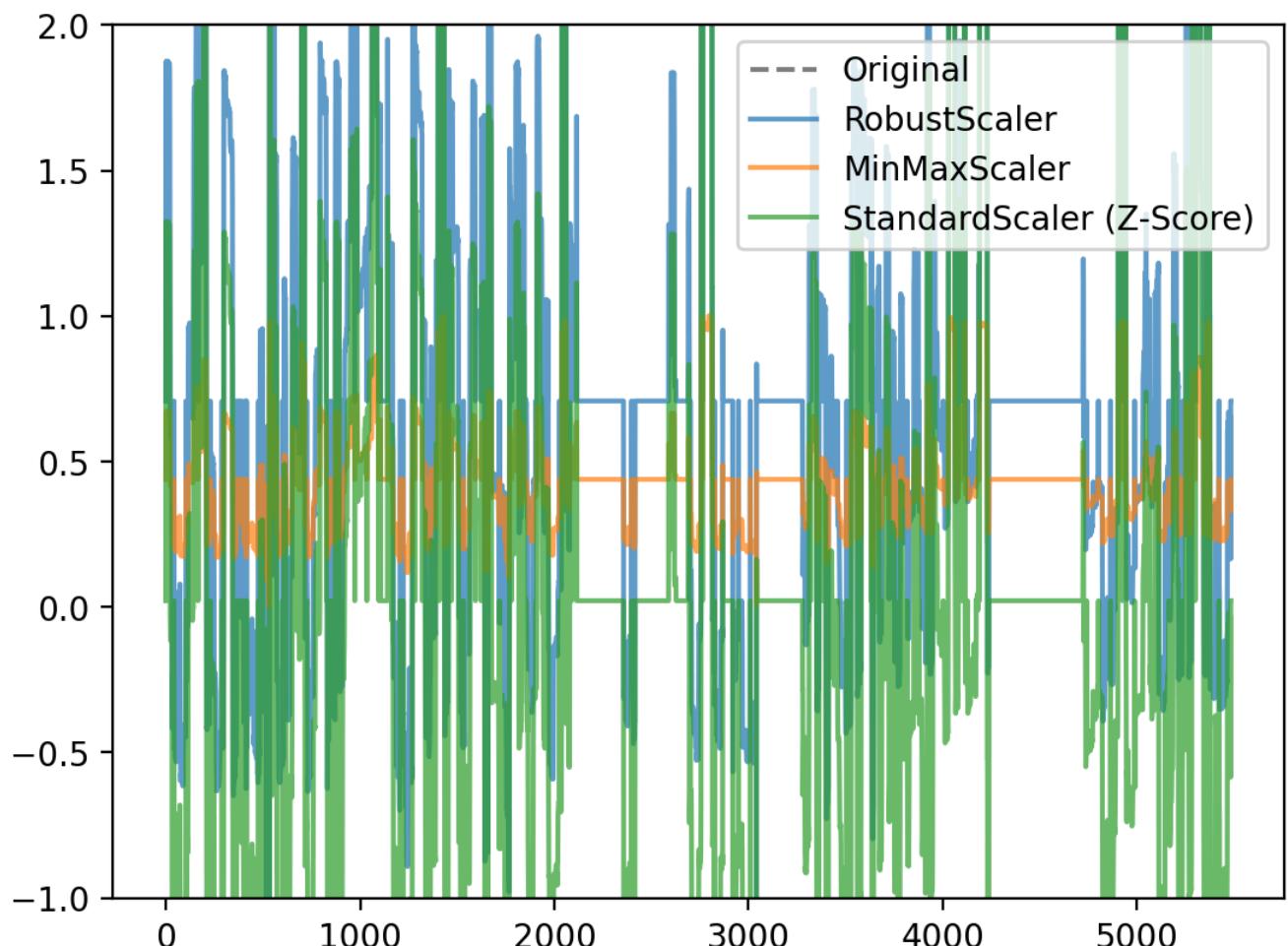## 📐 Preview: Normalization

🔧 Manual Y-Axis Zoom ⌃

Y-Axis Min (optional)

| -1,00 | − | + |

Y-Axis Max (optional)

| 2,00 | − | + |

☑ Use custom Y-axis range

Select normalization methods to preview

RobustScaler ✕ MinMaxScaler ✕ StandardScaler (... ✕   ⊗ ⌄

☑ Apply this Normalization Method

RobustScaler ⌄

⚙️ Optional Post-Normalization Steps

☑ Apply manual feature limits

Lower limit

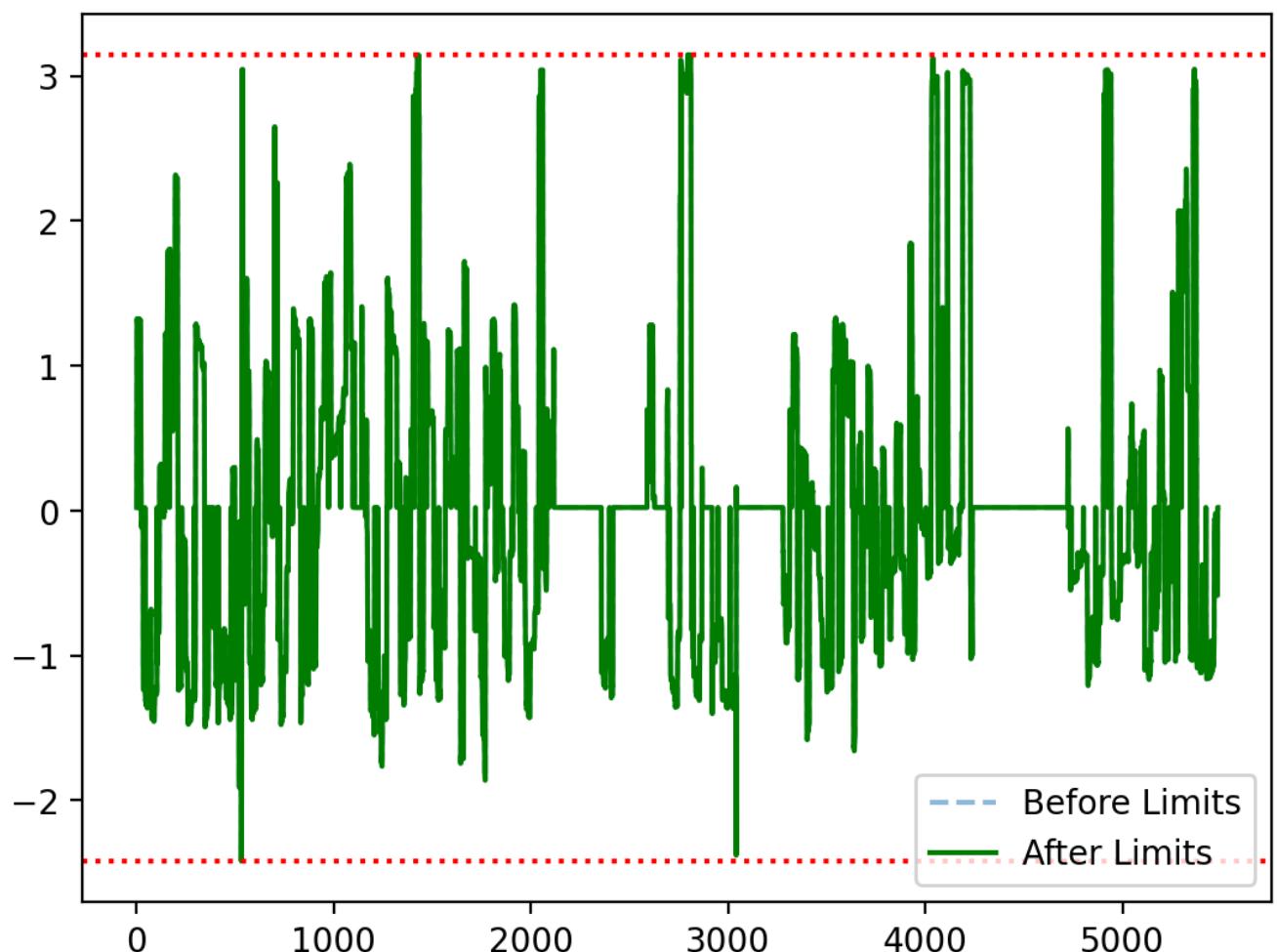-2,42 — +

Upper limit

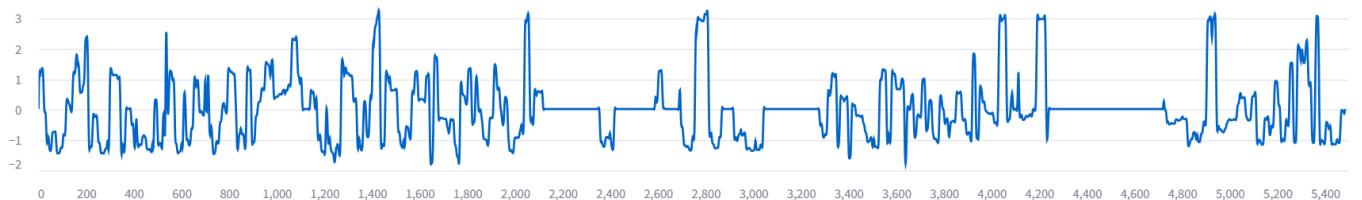3,15 — +

☑ Apply Butterworth low-pass filter

Cutoff Frequency

0.10

0.01   0.50

Sampling Frequency (Hz)

| 1,00 | − | + |

Filter Order

2

1   10

☑ Apply Fourier Smoothing

Max frequency to keep (Hz)

0.10

0.01   0.50

🔎 Show Final Comparison

📊 Summary Statistics Before vs After

	Metric	Before	After
0	Mean	643.4557	0.6889
1	Std	305.1007	0.8959
2	Missing %	26.9147	0.0000
3	Outlier Removed %	0.0000	-25.2918

📋 Final Data Preview

	Row	Timestamp	EventSource	SlideEvent	StimType	Duration	CollectionPhase	SourceStimuliName	EventSource.1	CPU Sys	Memory Sys	CPU Proc	Memory Proc	EventSourc
0	1	30.9133	1	StartSlide	TestImage	90,000	StimuliDisplay	Frage 1	None	None	None	None	None	No
1	2	32.508	None	None	None	None	None	Frage 1	None	None	None	None	None	
2	3	49.1635	None	None	None	None	None	Frage 1	None	None	None	None	None	
3	4	65.8267	None	None	None	None	None	Frage 1	None	None	None	None	None	
4	5	82.474	None	None	None	None	None	Frage 1	None	None	None	None	None	

💾 Download Processed CSV