

# Fairfluence Report

The dataset used to create this report:

<https://www.kaggle.com/datasets/fatemehmohammadinia/heart-attack-dataset-tarik-a-rashid>

## Dataset Summary

Metric	Value
Number of Columns	9
Number of Records	1319
Total Cells	11871
Missing Cells	0
Missing Percentage	0.00%
Duplicate Records	0
Duplicate Percentage	0.00%
Memory Usage	155.99 KB
Average Record Size	121.10 Bytes

## Column Type Summary

Column Type	Count
Categorical Columns	3
Numeric Columns	6
Text Columns	0

## Alerts

Level	Message
Info	Column "Age" has no missing values
Info	Column "Gender" has no missing values
Info	Column "Heart rate" has no missing values
Info	Column "Systolic blood pressure" has no missing values
Info	Column "Diastolic blood pressure" has no missing values
Info	Column "Blood sugar" has no missing values
Info	Column "CK-MB" has no missing values
Info	Column "Troponin" has no missing values
Info	Column "Result" has no missing values

## Quality Results

### F1 Score Report

F1 Score (Original)	F1 Score (Statistic)	F1 Score (Influence)
0.828	0.8228	0.828

***Outlier Summary***

Influence Outliers (Count)	Influence Outliers (%)	Mahalanobis Outliers (Count)	Mahalanobis Outliers (%)	Overlap (Count)
0	0.0	82	6.2168	0

**Fairness Results**

***Top Patterns***

Pattern Column 1	Pattern Value 1	Support	Responsibility	Interestingness
Systolic blood pressure	(115.0, 136.0]	0.3289	0.2166	0.6587
Blood sugar	(146.0, 541.0]	0.3327	0.1221	0.3669
Troponin	(0.007, 0.0367]	0.3668	0.0344	0.0938
CK-MB	(0.32, 1.95]	0.3318	-0.0007	-0.0022
Age	(63.0, 103.0]	0.3536	-0.0386	-0.1093

***Fairness (No Influence)***

Sensitive Feature	DPD	DPD Fair	EOD	EOD Fair	PPV Diff	PPV Fair
Age	1.0	No	1.0	No	1.0	No
Gender	0.2079	No	0.2444	No	0.0436	Yes

***Fairness (With Influence)***

Influence Group	Positive Group	Mean (Positive)	Mean (Other)	Mean Difference	Influence Fair	Cohen Fair
Systolic blood pressure	(115.0, 136.0]	0.00000660	-0.00007097	0.00007758	Yes	Yes
Blood sugar	(146.0, 541.0]	0.00001771	-0.00007792	0.00009562	Yes	Yes
Troponin	(0.007, 0.0367]	0.00001541	-0.00007626	0.00009166	Yes	Yes
CK-MB	(0.32, 1.95]	-0.00000199	-0.00006871	0.00006672	Yes	Yes
Age	(63.0, 103.0]	-0.00004963	-0.00004469	-0.00000494	Yes	Yes