

Demographic Parity

Demographic Parity: A fairness criterion that requires the rate of positive outcomes from an AI system to be equal across all demographic groups

parity chart

Group A (Male)

75%

Group B (Female)

55%

⚠ Gap: 20%

Group Fairness

- Measure positive prediction rate for each demographic group
- Statistical significance testing
- Set acceptable gap thresholds
- Analyze and adjust for gap causes
- Continuous monitoring

✓ Objective

Achieve $P(\hat{Y}=1|Group=A) \approx P(\hat{Y}=1|Group=B)$ for all demographic groups