Problem

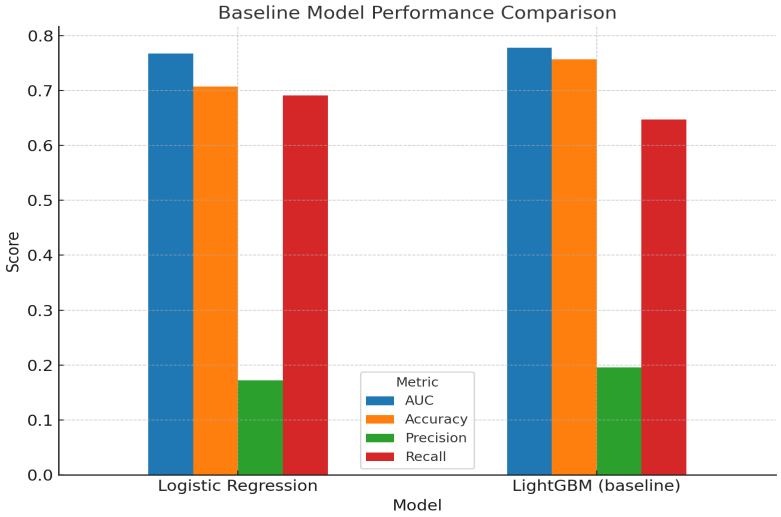
Credit risk modeling is central to financial stability.■■- Traditional models: limited accuracy, interpretable.■- AI models: higher accuracy, but opaque an

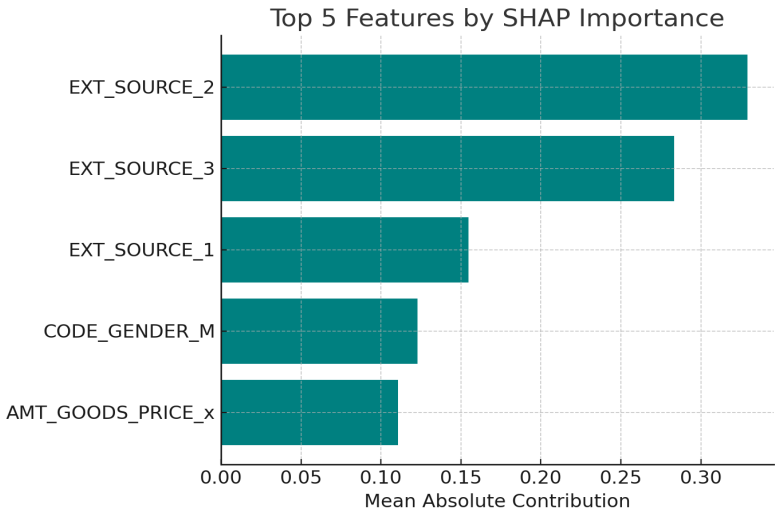
Data & Methods

Dataset: Home Credit Default Risk (Kaggle).■■- 300K+ applicants, demographic + financial history.■- Models: Logistic Regression (baseline), LightGB

Key Findings

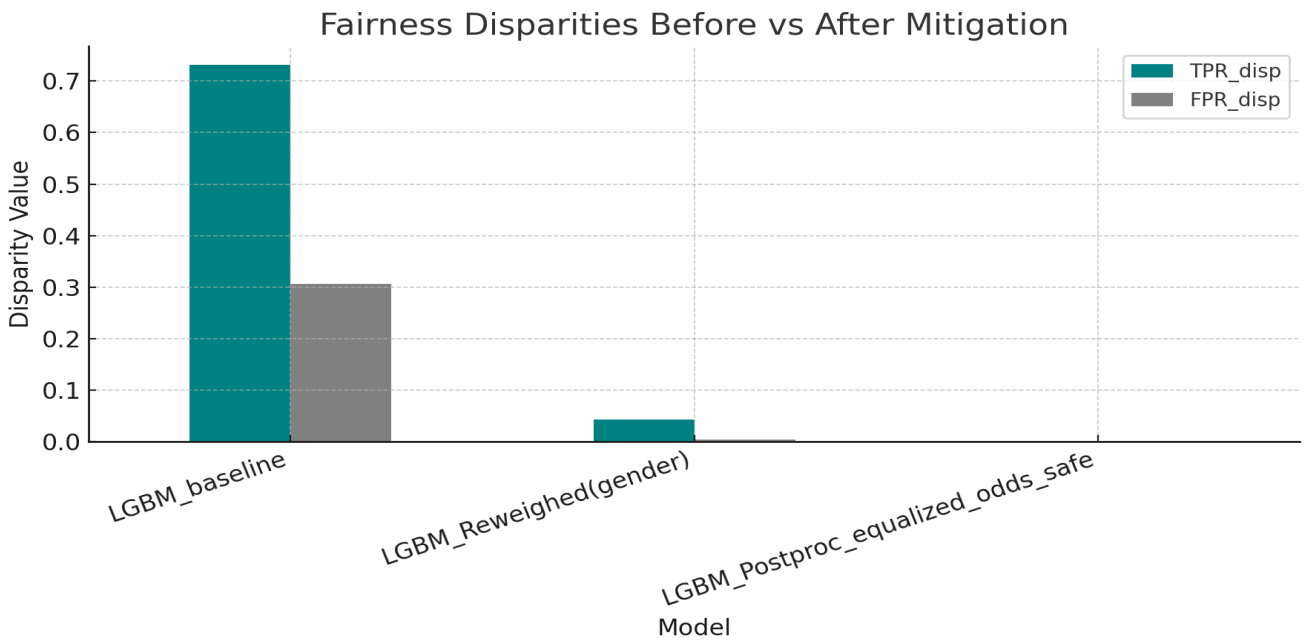
- LightGBM outperformed Logistic Regression (AUC 0.778 vs. 0.767).■- Both models had low precision (<20%), many false alarms.■- Top predictors: E





Mitigation Results

- Tested threshold adjustments and re-weighting.■- Trade-off: improved fairness metrics for some groups, but small drop in accuracy.■- Example: balan



Governance Implications

- Accuracy alone insufficient for credit AI assessment.■- Regulators should mandate:■ • Fairness audits with clear metrics.■ • Standardized explainab

Next Steps

- Extend fairness analysis to intersectional groups (e.g., gender × age).■- Explore fairness-aware algorithms (e.g., adversarial debiasing).■- Build dash