A graph of different colored lines

Description automatically generated

Evaluation Results:

performance: {'accuracy': 0.97086, 'precision': 0.9507803424415374, 'recall': 0.9750090640700264, 'f1\_score': 0.9627422901856493}

Variance of Numerical Features:

Num\_Children: 1.9882564969649696

Income: 528038693.06598526

Fairness Metrics:

Attribute: Gender

Statistical Parity: {'Female': 0.2149889933960376, 'Male': 0.5767539476314212}

Equal Opportunity (TPR): {'Female': 0.9676823638042474, 'Male': 0.9774829389960855}

Equalized Odds (TPR): {'Female': 0.9676823638042474, 'Male': 0.9774829389960855}

Equalized Odds (FPR): {'Female': 0.03259329239489844, 'Male': 0.030146954590558994}

Attribute: Own\_Car

Statistical Parity: {'No': 0.3026078234704112, 'Yes': 0.435825367384791}

Equal Opportunity (TPR): {'No': 0.9666513866605546, 'Yes': 0.9774491434689507}

Equalized Odds (TPR): {'No': 0.9666513866605546, 'Yes': 0.9774491434689507}

Equalized Odds (FPR): {'No': 0.0290785498489426, 'Yes': 0.033157554350529826}

Attribute: Own\_Housing

Statistical Parity: {'No': 0.33043609324758844, 'Yes': 0.4931245035742653}

Equal Opportunity (TPR): {'No': 0.9705588560012618, 'Yes': 0.979329352319706}

Equalized Odds (TPR): {'No': 0.9705588560012618, 'Yes': 0.979329352319706}

Equalized Odds (FPR): {'No': 0.031210832862303705, 'Yes': 0.03280985745349118}

Attribute: Income\_Category

Statistical Parity: {'High': 0.7524428728945668, 'Medium': 0.00037976285919237096}

Equal Opportunity (TPR): {'High': 0.9812820980734639, 'Medium': 0.03137254901960784}

Equalized Odds (TPR): {'High': 0.9812820980734639, 'Medium': 0.03137254901960784}

Equalized Odds (FPR): {'High': 0.13613704977883873, 'Medium': 0.00021212056933160808}

Subgroup Accuracy by Sensitive Attribute:

Attribute: Gender

Male: 0.9742554467319609

Female: 0.9674604762857715

Attribute: Own\_Car

Yes: 0.9713653873591097

No: 0.9696756937479104

Attribute: Own\_Housing

Yes: 0.9730937251787133

No: 0.9693528938906752

Attribute: Income\_Category

High: 0.9494886126002814

Medium: 0.9945778302881978