A graph of a function

Description automatically generated

Evaluation Results:

performance: {'accuracy': 0.97286, 'precision': np.float64(0.965677372490012), 'recall': np.float64(0.9639767959807324), 'f1\_score': np.float64(0.9648263348885433)}

Variance of Numerical Features:

Num\_Children: 1.9882564969649696

Income: 528038693.06598526

Fairness Metrics:

Attribute: Gender

Statistical Parity: {'Female': 0.1947568541124675, 'Male': 0.5759344393363982}

Equal Opportunity (TPR): {'Female': 0.9263363086077767, 'Male': 0.97668618145287}

Equalized Odds (TPR): {'Female': 0.9263363086077767, 'Male': 0.97668618145287}

Equalized Odds (FPR): {'Female': 0.01747756258856873, 'Male': 0.029296413551953882}

Attribute: Own\_Car

Statistical Parity: {'No': 0.2900367769976597, 'Yes': 0.4261806249108289}

Equal Opportunity (TPR): {'No': 0.9485445794178318, 'Yes': 0.9684823340471093}

Equalized Odds (TPR): {'No': 0.9485445794178318, 'Yes': 0.9684823340471093}

Equalized Odds (FPR): {'No': 0.018787764350453172, 'Yes': 0.02300880553206308}

Attribute: Own\_Housing

Statistical Parity: {'No': 0.3183279742765273, 'Yes': 0.48495830023828435}

Equal Opportunity (TPR): {'No': 0.9547868145733662, 'Yes': 0.9728984841525035}

Equalized Odds (TPR): {'No': 0.9547868145733662, 'Yes': 0.9728984841525035}

Equalized Odds (FPR): {'No': 0.020815413727851367, 'Yes': 0.023000724812756706}

Attribute: Income\_Category

Statistical Parity: {'High': 0.7327478042659975, 'Medium': 4.2195873243596775e-05}

Equal Opportunity (TPR): {'High': 0.9703589770327694, 'Medium': 0.00392156862745098}

Equalized Odds (TPR): {'High': 0.9703589770327694, 'Medium': 0.00392156862745098}

Equalized Odds (FPR): {'High': 0.09281752439794987, 'Medium': 2.121205693316081e-05}

Subgroup Accuracy by Sensitive Attribute:

Attribute: Gender

Male: 0.9741555066959824

Female: 0.9715629377626576

Attribute: Own\_Car

Yes: 0.9733628192324154

No: 0.9716817118020729

Attribute: Own\_Housing

Yes: 0.9750049642573471

No: 0.9714127813504824

Attribute: Income\_Category

High: 0.9532527280331546

Medium: 0.9946200261614414