

User Manual

This tool tests and improves fairness in income prediction using the UCI Adult Income dataset.

How to Use

1. Open `ISE_final tool.ipynb` in Google Colab or Jupyter Notebook.
2. Run each cell sequentially:
 - The notebook preprocesses the data, trains 3 models:
 1. Random Forest
 2. Random Search + Logistic Regression (baseline)
 3. Fairness-aware model (Exponentiated Gradient)
 - It then evaluates fairness across:
 - Gender
 - Gender × Race (intersectional fairness)
3. Visualizations and metric comparisons will be shown in the output cells.

No parameter tweaking is required — just run all cells to replicate the analysis.