FairLens – How to Use the Tool

1. Introduction

FairLens is an AI fairness auditing tool developed by PlanetAI Research Lab. It allows users to upload a dataset containing model predictions and evaluate whether those predictions differ across demographic groups.

2. Preparing Your Dataset

The dataset should be in CSV format. The following columns are recommended for testing the tool with the provided sample dataset:

Column Name	Purpose
Gender	Protected attribute example
Region	Geographic group
Race	Another demographic category
age_group	Age category
actual_outcome	Actual ground truth result (binary: 0 or 1)
model_prediction	Prediction generated by the AI model (binary: 0 or 1)
Zipcode	High-cardinality column used to test warnings

3. Steps to Use FairLens

1. Open the FairLens web tool.
2. Upload the provided CSV dataset.
3. Select one or more Protected Attributes (e.g., gender or gender + region).
4. Select the 'actual_outcome' column as the True Label.
5. Select the 'model_prediction' column as the Predicted Label.
6. Click 'Run Fairness Analysis'.

4. Understanding the Outputs
After running the analysis, the tool will display:
- Dataset summary
- Protected attribute distribution
- Fairness metrics (Parity Gap, Disparate Impact, Equal Opportunity Gap)
- Group fairness statistics
- Bias heatmap visualization
- Automated interpretation and warnings.

5. Features Demonstrated by the Sample Dataset
- Intersectional fairness analysis using multiple protected attributes
- Sample size warnings for under-represented groups
- Bias heatmap visualization
- Distribution imbalance detection
- High cardinality attribute warning (zipcode)

6. Notes
This dataset intentionally contains biased prediction patterns so that the FairLens tool clearly demonstrates how disparities appear in fairness metrics and visualizations.

Best of luck! From PlanetAI Research Lab. 😊