Analysis Report

Global dataset report

This report is the output of the Amazon SageMaker Clarify analysis. The report is split into following parts:

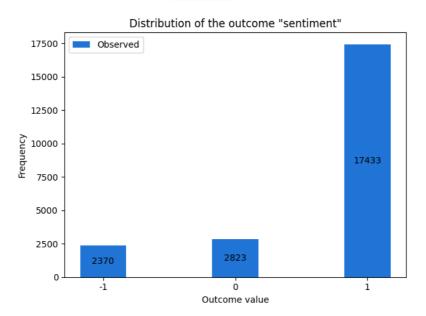
- 1. Analysis configuration
- 2. Pretraining bias metrics

Analysis Configuration

Bias analysis requires you to configure the outcome label column, the facet and optionally a group variable. Generating explanations requires you to configure the outcome label. You configured the analysis with the following variables. The complete analysis configuration is appended at the end.

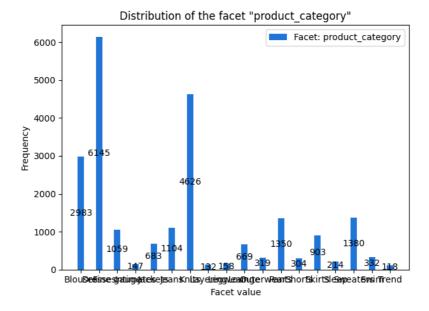
Outcome label: You chose the column sentiment in the input data as the outcome label. Bias metric computation requires designating the positive outcome. You chose sentiment = 1 as the positive outcome. sentiment consisted of values [-1, 0, 1].

The figure below shows the distribution of values of sentiment .



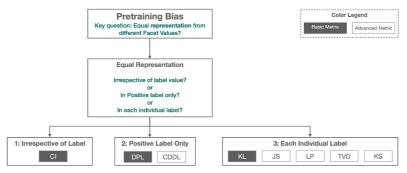
Facet: You chose the column product_category in the input data as the facet. product_category consisted of values ['Blouses', 'Dresses', 'Fine gauge', 'Intimates', 'Jackets', 'Jeans', 'Knits', 'Layering', 'Legwear', 'Lounge', 'Outerwear', 'Pants', 'Shorts', 'Skirts', 'Sleep', 'Sweaters', 'Swim', 'Trend'] . Bias metrics were computed by comparing the inputs product_category = Blouses with all other inputs, then by comparing inputs product_category = Pants with all other inputs, then by comparing inputs product_category = Rnits with all other inputs, then by comparing inputs product_category = Intimates with all other inputs, then by comparing inputs product_category = Outerwear with all other inputs, then by comparing inputs product_category = Sweaters with all other inputs, then by comparing inputs product_category = Sweaters with all other inputs, then by comparing inputs product_category = Siep with all other inputs, then by comparing inputs product_category = Jackets with all other inputs, then by comparing inputs product_category = Trend with all other inputs, then by comparing inputs product_category = Jeans with all other inputs, then by comparing inputs product_category = Legwear with all other inputs, then by comparing inputs product_category = Shorts with all other inputs, then by comparing inputs product_category = Legwear with all other inputs, then by comparing inputs product_category = Shorts with all other inputs, then by comparing inputs product_category = Layering with all other inputs.

The figure below shows the distribution of values of product_category .



Pre-training Bias Metrics

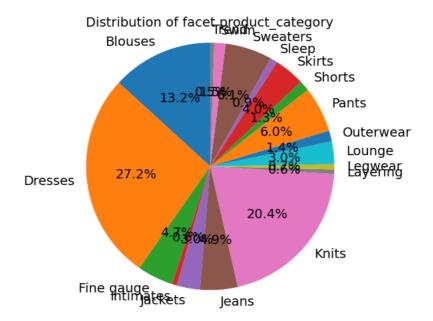
Pretraining bias metrics measure imbalances in facet value representation in the training data. Imbalances can be measured across different dimensions. For instance, you could focus imbalances within the inputs with positive observed label only. The figure below shows how different pretraining bias metrics focus on different dimensions. For a detailed description of these dimensions, see <u>Learn How Amazon SageMaker Clarify Helps Detect Bias</u>.



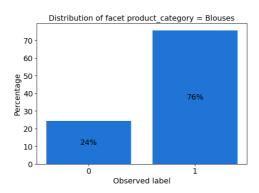
The metric values along with an informal description of what they mean are shown below. For mathematical formulas and examples, see the <u>Measure Pretraining Bias</u> section of the AWS documentation.

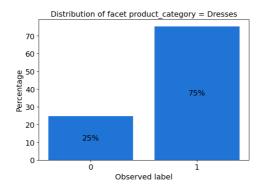
We computed the bias metrics for the label sentiment using label value(s)/threshold sentiment = 1 for the following facets:

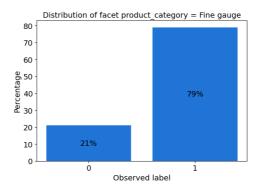
• Facet column: **product_category**The pie chart shows the distribution of facet column | product_category | in your data.

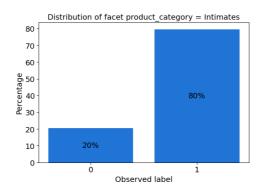


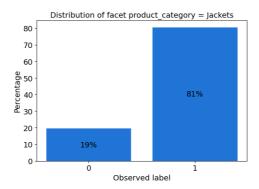
The bar plot(s) below show the distribution of facet column product_category in your data.

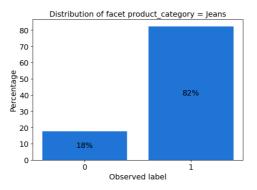


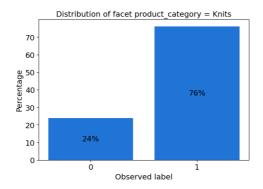


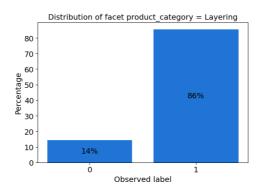


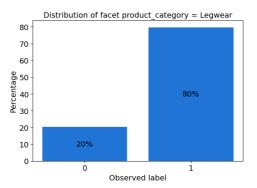


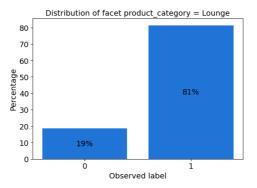


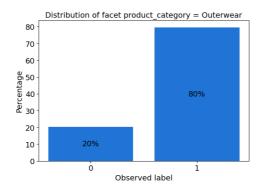


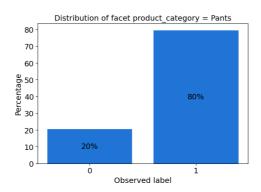


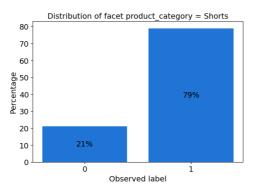


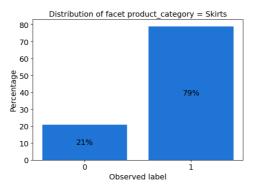


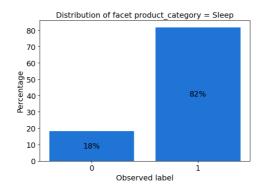


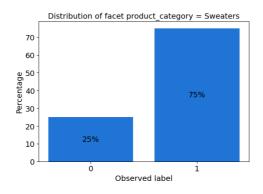


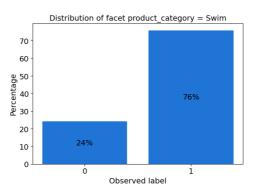


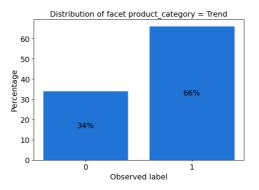












Facet Value(s)/Threshold: product_category = Blouses

Metric	Description	Value
Class Imbalance (CI)	Measures the imbalance in the number of inputs with facet values Sex=0 and rest of the inputs.	0.736
<u>Difference in</u> <u>Proportions of Labels</u> (DPL)	Measures the imbalance of positive observed labels between facet values Sex=0 and rest of the inputs.	0.016
<u>Jensen-Shannon</u> <u>Divergence (JS)</u>	Measures how much the observed label distributions of facet values Sex=0 and rest of the inputs diverge from each other entropically.	0.000
<u>Kullback-Leibler</u> <u>Divergence (KL)</u>	Measures how much the observed label distributions of facet values Sex=0 and rest of the inputs diverge from each other entropically.	0.001
Kolmogorov-Smirnov (KS)	Measures maximum divergence between the observed label distributions for facet values $Sex=0$ and rest of the inputs in the dataset.	0.016
<u>Lp-norm (LP)</u>	Measures a p-norm difference between the observed label distributions associated with facet values $Sex=0$ rest of the inputs in the dataset.	0.023
Total Variation Distance (TVD)	Measures half of the L1-norm difference between the observed label distributions associated with facet values $Sex=0$ and rest of the inputs in the dataset.	0.016

Facet Value(s)/Threshold: product_category = Dresses

	Description	Value
Class Imbalance (CI)	Measures the imbalance in the number of inputs with facet values Sex=0 and rest of the inputs.	0.457
<u>Difference in</u> <u>Proportions of Labels</u> (DPL)	Measures the imbalance of positive observed labels between facet values $Sex=0$ and rest of the inputs.	0.022
<u>Jensen-Shannon</u> <u>Divergence (JS)</u>	Measures how much the observed label distributions of facet values Sex=0 and rest of the inputs diverge from each other entropically.	0.000
<u>Kullback-Leibler</u> <u>Divergence (KL)</u>	Measures how much the observed label distributions of facet values Sex=0 and rest of the inputs diverge from each other entropically.	0.001
Kolmogorov-Smirnov (KS)	Measures maximum divergence between the observed label distributions for facet values ${\sf Sex=0} \ \ {\sf and} \ \ {\sf rest} \ \ {\sf of} \ \ {\sf the} \ \ {\sf inputs} \ \ {\sf in} \ \ {\sf the} \ \ {\sf dataset}.$	0.022
<u>Lp-norm (LP)</u>	Measures a p-norm difference between the observed label distributions associated with facet values $Sex=0$ rest of the inputs in the dataset.	0.032
Total Variation Distance (TVD)	Measures half of the L1-norm difference between the observed label distributions associated with facet values $Sex=0$ and rest of the inputs in the dataset.	0.022
Facet Value(s)/Thresho	old: product_category = Pants	
Metric	Description	Value
Class Imbalance (CI)	Measures the imbalance in the number of inputs with facet values Sex=0 and rest of the inputs.	0.881
<u>Difference in</u> <u>Proportions of Labels</u> (DPL)	Measures the imbalance of positive observed labels between facet values Sex=0 and rest of the inputs.	-0.027
<u>Jensen-Shannon</u> <u>Divergence (JS)</u>	Measures how much the observed label distributions of facet values Sex=0 and rest of the inputs diverge from each other entropically.	0.001
<u>Kullback-Leibler</u> <u>Divergence (KL)</u>	Measures how much the observed label distributions of facet values Sex=0 and rest of the inputs diverge from each other entropically.	0.002
Kolmogorov-Smirnov (KS)	Measures maximum divergence between the observed label distributions for facet values ${\sf Sex=0} \ \ {\sf and} \ {\sf rest} \ {\sf of} \ {\sf the} \ {\sf inputs} \ {\sf in} \ {\sf the} \ {\sf dataset}.$	0.027
<u>Lp-norm (LP)</u>	Measures a p-norm difference between the observed label distributions associated with facet values $Sex=0$ rest of the inputs in the dataset.	0.038
Total Variation Distance (TVD)	Measures half of the L1-norm difference between the observed label distributions associated with facet values Sex=0 and rest of the inputs in the dataset.	0.027
	•	0.027
	old: product_category = Knits	0.027
	•	
Facet Value(s)/Thresho	old: product_category = Knits	
Facet Value(s)/Thresho	old: product_category = Knits Description	Value
Facet Value(s)/Thresho Metric Class Imbalance (CI) Difference in Proportions of Labels	Description Measures the imbalance in the number of inputs with facet values Sex=0 and rest of the inputs. Measures the imbalance of positive observed labels between facet values Sex=0 and rest of	Value 0.591
Facet Value(s)/Thresho Metric Class Imbalance (CI) Difference in Proportions of Labels (DPL) Jensen-Shannon	Description Measures the imbalance in the number of inputs with facet values Sex=0 and rest of the inputs. Measures the imbalance of positive observed labels between facet values Sex=0 and rest of the inputs. Measures how much the observed label distributions of facet values Sex=0 and rest of the	Value 0.591 0.011
Facet Value(s)/Thresho Metric Class Imbalance (CI) Difference in Proportions of Labels (DPL) Jensen-Shannon Divergence (JS) Kullback-Leibler	Description Measures the imbalance in the number of inputs with facet values Sex=0 and rest of the inputs. Measures the imbalance of positive observed labels between facet values Sex=0 and rest of the inputs. Measures how much the observed label distributions of facet values Sex=0 and rest of the inputs diverge from each other entropically. Measures how much the observed label distributions of facet values Sex=0 and rest of the	Value 0.591 0.011 0.000
Facet Value(s)/Thresho Metric Class Imbalance (CI) Difference in Proportions of Labels (DPL) Jensen-Shannon Divergence (JS) Kullback-Leibler Divergence (KL) Kolmogorov-Smirnov	Description Measures the imbalance in the number of inputs with facet values Sex=0 and rest of the inputs. Measures the imbalance of positive observed labels between facet values Sex=0 and rest of the inputs. Measures how much the observed label distributions of facet values Sex=0 and rest of the inputs diverge from each other entropically. Measures how much the observed label distributions of facet values Sex=0 and rest of the inputs diverge from each other entropically. Measures maximum divergence between the observed label distributions for facet values	Value 0.591 0.011 0.000 0.000

	Description	Value
Class Imbalance (CI)	Measures the imbalance in the number of inputs with facet values Sex=0 and rest of the inputs.	0.987
<u>Difference in</u> <u>Proportions of Labels</u> (DPL)	Measures the imbalance of positive observed labels between facet values $Sex=0$ and rest of the inputs.	-0.026
<u>Jensen-Shannon</u> <u>Divergence (JS)</u>	Measures how much the observed label distributions of facet values Sex=0 and rest of the inputs diverge from each other entropically.	0.000
<u>Kullback-Leibler</u> <u>Divergence (KL)</u>	Measures how much the observed label distributions of facet values Sex=0 and rest of the inputs diverge from each other entropically.	0.002
Kolmogorov-Smirnov (KS)	Measures maximum divergence between the observed label distributions for facet values ${\sf Sex=0} \ \ {\sf and} \ \ {\sf rest} \ \ {\sf of} \ \ {\sf the} \ \ {\sf inputs} \ \ {\sf in} \ \ {\sf the} \ \ {\sf dataset}.$	0.026
<u>Lp-norm (LP)</u>	Measures a p-norm difference between the observed label distributions associated with facet values $Sex=0$ rest of the inputs in the dataset.	0.036
Total Variation Distance (TVD)	Measures half of the L1-norm difference between the observed label distributions associated with facet values $Sex=0$ and rest of the inputs in the dataset.	0.026
Facet Value(s)/Thresho	old: product_category = Outerwear	
Metric	Description	Value
Class Imbalance (CI)	Measures the imbalance in the number of inputs with facet values Sex=0 and rest of the inputs.	0.972
<u>Difference in</u> <u>Proportions of Labels</u> (DPL)	Measures the imbalance of positive observed labels between facet values $Sex=0$ and rest of the inputs.	-0.026
<u>Jensen-Shannon</u> <u>Divergence (JS)</u>	Measures how much the observed label distributions of facet values Sex=0 and rest of the inputs diverge from each other entropically.	0.001
<u>Kullback-Leibler</u> <u>Divergence (KL)</u>	Measures how much the observed label distributions of facet values Sex=0 and rest of the inputs diverge from each other entropically.	0.002
Kolmogorov-Smirnov (KS)	Measures maximum divergence between the observed label distributions for facet values $Sex=0$ and rest of the inputs in the dataset.	0.026
<u>Lp-norm (LP)</u>	Measures a p-norm difference between the observed label distributions associated with facet values $Sex=0$ rest of the inputs in the dataset.	0.037
Total Variation Distance (TVD)	Measures half of the L1-norm difference between the observed label distributions associated with facet values $Sex=0$ and rest of the inputs in the dataset.	0.000
		0.026
Facet Value(s)/Thresho	old: product_category = Lounge	0.026
acet Value(s)/Thresho	old: product_category = Lounge Description	
Metric Class Imbalance (CI)		Value
Metric	Description	Value 0.941
Metric Class Imbalance (CI) Difference in Proportions of Labels	Description Measures the imbalance in the number of inputs with facet values Sex=0 and rest of the inputs. Measures the imbalance of positive observed labels between facet values Sex=0 and rest of	Value 0.941 -0.046
Metric Class Imbalance (CI) Difference in Proportions of Labels (DPL) Jensen-Shannon	Measures the imbalance in the number of inputs with facet values Sex=0 and rest of the inputs. Measures the imbalance of positive observed labels between facet values Sex=0 and rest of the inputs. Measures how much the observed label distributions of facet values Sex=0 and rest of the	Value 0.941 -0.046
Metric Class Imbalance (CI) Difference in Proportions of Labels (DPL) Jensen-Shannon Divergence (JS) Kullback-Leibler	Measures the imbalance in the number of inputs with facet values Sex=0 and rest of the inputs. Measures the imbalance of positive observed labels between facet values Sex=0 and rest of the inputs. Measures how much the observed label distributions of facet values Sex=0 and rest of the inputs diverge from each other entropically. Measures how much the observed label distributions of facet values Sex=0 and rest of the	0.941 -0.046 0.002
Metric Class Imbalance (CI) Difference in Proportions of Labels (DPL) Jensen-Shannon Divergence (JS) Kullback-Leibler Divergence (KL) Kolmogorov-Smirnov	Measures the imbalance in the number of inputs with facet values Sex=0 and rest of the inputs. Measures the imbalance of positive observed labels between facet values Sex=0 and rest of the inputs. Measures how much the observed label distributions of facet values Sex=0 and rest of the inputs diverge from each other entropically. Measures how much the observed label distributions of facet values Sex=0 and rest of the inputs diverge from each other entropically. Measures maximum divergence between the observed label distributions for facet values	Value 0.941 -0.046 0.002

Value	Description	Metric
0.878	Measures the imbalance in the number of inputs with facet values Sex=0 and rest of the inputs.	Class Imbalance (CI)
0.021	Measures the imbalance of positive observed labels between facet values Sex=0 and rest of the inputs.	<u>Difference in</u> <u>Proportions of Labels</u> (DPL)
0.000	Measures how much the observed label distributions of facet values $Sex=0$ and rest of the inputs diverge from each other entropically.	<u>Jensen-Shannon</u> <u>Divergence (JS)</u>
0.001		<u>Kullback-Leibler</u> <u>Divergence (KL)</u>
0.021	Measures maximum divergence between the observed label distributions for facet values ${\sf Sex=0} \ \ {\sf and} \ \ {\sf rest} \ \ {\sf of} \ \ {\sf the} \ \ {\sf inputs} \ \ {\sf in} \ \ {\sf the} \ \ {\sf dataset}.$	Kolmogorov-Smirnov (KS)
0.030	Measures a p-norm difference between the observed label distributions associated with facet values $Sex=0$ rest of the inputs in the dataset.	<u>Lp-norm (LP)</u>
0.021	Measures half of the L1-norm difference between the observed label distributions associated with facet values $Sex=0$ and rest of the inputs in the dataset.	Total Variation Distance (TVD)
	old: product_category = Skirts	Facet Value(s)/Thresho
Value	Description	Metric
0.920	Measures the imbalance in the number of inputs with facet values Sex=0 and rest of the inputs.	Class Imbalance (CI)
-0.021	Measures the imbalance of positive observed labels between facet values Sex=0 and rest of the inputs.	<u>Difference in</u> <u>Proportions of Labels</u> (DPL)
0.000	Measures how much the observed label distributions of facet values Sex=0 and rest of the inputs diverge from each other entropically.	<u>Jensen-Shannon</u> <u>Divergence (JS)</u>
0.001	Measures how much the observed label distributions of facet values Sex=0 and rest of the inputs diverge from each other entropically.	<u>Kullback-Leibler</u> <u>Divergence (KL)</u>
0.021	Measures maximum divergence between the observed label distributions for facet values ${\sf Sex=0} \ \ {\sf and} \ \ {\sf rest} \ \ {\sf of} \ \ {\sf the} \ \ {\sf in} \ \ {\sf the} \ \ {\sf dataset}.$	Kolmogorov-Smirnov (KS)
0.030	Measures a p-norm difference between the observed label distributions associated with facet values Sex=0 rest of the inputs in the dataset.	<u>Lp-norm (LP)</u>
0.021	Measures half of the L1-norm difference between the observed label distributions associated with facet values $Sex=0$ and rest of the inputs in the dataset.	Total Variation Distance (TVD)
	old: product_category = Fine gauge	Facet Value(s)/Thresho
Value	Description	Metric
0.906	Measures the imbalance in the number of inputs with facet values Sex=0 and rest of the inputs.	Class Imbalance (CI)
-0.021	measures the imbalance of positive observed labels between facet values Sex=0 and rest of the inputs	<u>Difference in</u> <u>Proportions of Labels</u> (DPL)
0.000	Measures how much the observed label distributions of facet values Sex=0 and rest of the inputs diverge from each other entropically.	<u>Jensen-Shannon</u> <u>Divergence (JS)</u>
0.001	Measures how much the observed label distributions of facet values Sex=0 and rest of the inputs diverge from each other entropically.	Kullback-Leibler Divergence (KL)
0.021	Measures maximum divergence between the observed label distributions for facet values ${\sf Sex=0} \ \ {\sf and} \ \ {\sf rest} \ \ {\sf of} \ \ {\sf the} \ \ {\sf inputs} \ \ {\sf in} \ \ {\sf the} \ \ {\sf dataset}.$	Kolmogorov-Smirnov (KS)
0.029	Measures a p-norm difference between the observed label distributions associated with facet values Sex=0 rest of the inputs in the dataset.	<u>Lp-norm (LP)</u>
0.021	Measures half of the L1-norm difference between the observed label distributions associated with facet values Sex=0 and rest of the inputs in the dataset.	<u>Total Variation Distance</u> (TVD)
	ald, product category — Class	C+ \ /- /- \ /T -

Facet Value(s)/Threshold: product_category = Sleep

Metric	Description	Value
Class Imbalance (CI)	Measures the imbalance in the number of inputs with facet values Sex=0 and rest of the inputs.	0.981
<u>Difference in</u> <u>Proportions of Labels</u> (DPL)	Measures the imbalance of positive observed labels between facet values $Sex=0$ and rest of the inputs.	-0.048
Jensen-Shannon Divergence (JS)	Measures how much the observed label distributions of facet values Sex=0 and rest of the inputs diverge from each other entropically.	0.002
<u>Kullback-Leibler</u> <u>Divergence (KL)</u>	Measures how much the observed label distributions of facet values Sex=0 and rest of the inputs diverge from each other entropically.	0.007
Kolmogorov-Smirnov (KS)	Measures maximum divergence between the observed label distributions for facet values ${\sf Sex=0} \ \ {\sf and} \ \ {\sf rest} \ \ {\sf of} \ \ {\sf the} \ \ {\sf inputs} \ \ {\sf in} \ \ {\sf the} \ \ {\sf dataset}.$	0.048
<u>Lp-norm (LP)</u>	Measures a p-norm difference between the observed label distributions associated with facet values $Sex=0$ rest of the inputs in the dataset.	0.067
Total Variation Distance (TVD)	Measures half of the L1-norm difference between the observed label distributions associated with facet values $Sex=0$ and rest of the inputs in the dataset.	0.048
Facet Value(s)/Thresho	old: product_category = Jackets	
Metric	Description	Value
Class Imbalance (CI)	Measures the imbalance in the number of inputs with facet values Sex=0 and rest of the inputs.	0.940
<u>Difference in</u> <u>Proportions of Labels</u> (DPL)	Measures the imbalance of positive observed labels between facet values Sex=0 and rest of the inputs.	-0.036
<u>Jensen-Shannon</u> <u>Divergence (JS)</u>	Measures how much the observed label distributions of facet values Sex=0 and rest of the inputs diverge from each other entropically.	0.001
<u>Kullback-Leibler</u> <u>Divergence (KL)</u>	Measures how much the observed label distributions of facet values Sex=0 and rest of the inputs diverge from each other entropically.	0.004
Kolmogorov-Smirnov (KS)	Measures maximum divergence between the observed label distributions for facet values ${\sf Sex=0} \ \ {\sf and} \ \ {\sf rest} \ \ {\sf of} \ \ {\sf the} \ \ {\sf inputs} \ \ {\sf in} \ \ {\sf the} \ \ {\sf dataset}.$	0.036
<u>Lp-norm (LP)</u>	Measures a p-norm difference between the observed label distributions associated with facet values Sex=0 rest of the inputs in the dataset.	0.051
Total Variation Distance (TVD)	Measures half of the L1-norm difference between the observed label distributions associated with facet values Sex=0 and rest of the inputs in the dataset.	0.036
Facet Value(s)/Thresho	old: product_category = Swim	
Metric	Description	Value
Class Imbalance (CI)	Measures the imbalance in the number of inputs with facet values Sex=0 and rest of the inputs.	0.971
<u>Difference in</u> <u>Proportions of Labels</u> (DPL)	Measures the imbalance of positive observed labels between facet values $Sex=0$ and rest of the inputs.	0.012
<u>Jensen-Shannon</u> <u>Divergence (JS)</u>	Measures how much the observed label distributions of facet values Sex=0 and rest of the inputs diverge from each other entropically.	0.000
Kullback-Leibler	Measures how much the observed label distributions of facet values Sex=0 and rest of the	0.000
Divergence (KL)	inputs diverge from each other entropically.	
	inputs diverge from each other entropically. Measures maximum divergence between the observed label distributions for facet values ${\sf Sex=0} \ \ {\sf and} \ \ {\sf rest} \ \ {\sf of} \ \ {\sf the} \ \ {\sf inputs} \ \ {\sf in} \ \ {\sf the} \ \ {\sf dataset}.$	0.012
Divergence (KL) Kolmogorov-Smirnov	Measures maximum divergence between the observed label distributions for facet values	0.012

Facet Value(s)/Threshold: product_category = Trend

Metric	Description	Value
Class Imbalance (CI)	Measures the imbalance in the number of inputs with facet values Sex=0 and rest of the inputs.	0.990
<u>Difference in</u> <u>Proportions of Labels</u> (DPL)	Measures the imbalance of positive observed labels between facet values $Sex=0$ and rest of the inputs.	0.110
Jensen-Shannon Divergence (JS)	Measures how much the observed label distributions of facet values Sex=0 and rest of the inputs diverge from each other entropically.	0.007
<u>Kullback-Leibler</u> <u>Divergence (KL)</u>	Measures how much the observed label distributions of facet values Sex=0 and rest of the inputs diverge from each other entropically.	0.029
Kolmogorov-Smirnov (KS)	Measures maximum divergence between the observed label distributions for facet values ${\sf Sex=0} \ \ {\sf and} \ \ {\sf rest} \ \ {\sf of} \ \ {\sf the} \ \ {\sf inputs} \ \ {\sf in} \ \ {\sf the} \ \ {\sf dataset}.$	0.110
<u>Lp-norm (LP)</u>	Measures a p-norm difference between the observed label distributions associated with facet values $Sex=0$ rest of the inputs in the dataset.	0.156
Total Variation Distance (TVD)	Measures half of the L1-norm difference between the observed label distributions associated with facet values $Sex=0$ and rest of the inputs in the dataset.	0.110
Facet Value(s)/Thresho	old: product_category = Jeans	
Metric	Description	Value
Class Imbalance (CI)	Measures the imbalance in the number of inputs with facet values Sex=0 and rest of the inputs.	0.902
<u>Difference in</u> <u>Proportions of Labels</u> (DPL)	Measures the imbalance of positive observed labels between facet values $Sex=0$ and rest of the inputs.	-0.056
Jensen-Shannon Divergence (JS)	Measures how much the observed label distributions of facet values Sex=0 and rest of the inputs diverge from each other entropically.	0.002
<u>Kullback-Leibler</u> <u>Divergence (KL)</u>	Measures how much the observed label distributions of facet values Sex=0 and rest of the inputs diverge from each other entropically.	0.010
Kolmogorov-Smirnov (KS)	Measures maximum divergence between the observed label distributions for facet values ${\sf Sex=0} \ \ {\sf and} \ {\sf rest} \ {\sf of} \ {\sf the} \ {\sf inputs} \ {\sf in} \ {\sf the} \ {\sf dataset}.$	0.056
<u>Lp-norm (LP)</u>	Measures a p-norm difference between the observed label distributions associated with facet values Sex=0 rest of the inputs in the dataset.	0.079
Total Variation Distance (TVD)	Measures half of the L1-norm difference between the observed label distributions associated with facet values $Sex=0$ and rest of the inputs in the dataset.	0.056
Facet Value(s)/Thresho	old: product_category = Legwear	
Metric	Description	Value
Class Imbalance (CI)	Measures the imbalance in the number of inputs with facet values Sex=0 and rest of the inputs.	0.986
<u>Difference in</u> <u>Proportions of Labels</u> (DPL)	Measures the imbalance of positive observed labels between facet values $Sex=0$ and rest of the inputs.	-0.027
<u>Jensen-Shannon</u> <u>Divergence (JS)</u>	Measures how much the observed label distributions of facet values Sex=0 and rest of the inputs diverge from each other entropically.	0.001
<u>Kullback-Leibler</u> <u>Divergence (KL)</u>	Measures how much the observed label distributions of facet values Sex=0 and rest of the inputs diverge from each other entropically.	0.002
Kolmogorov-Smirnov (KS)	Measures maximum divergence between the observed label distributions for facet values ${\sf Sex=0} \ \ {\sf and} \ \ {\sf rest} \ \ {\sf of} \ \ {\sf the} \ \ {\sf inputs} \ \ {\sf in} \ \ {\sf the} \ \ {\sf dataset}.$	0.027
<u>Lp-norm (LP)</u>	Measures a p-norm difference between the observed label distributions associated with facet values Sex=0 rest of the inputs in the dataset.	0.038
Total Variation Distance (TVD)	Measures half of the L1-norm difference between the observed label distributions associated with facet values Sex=0 and rest of the inputs in the dataset.	0.027
acet Value(s)/Thresho	old: product_category = Shorts	

Metric	Description	Value
Class Imbalance (CI)	Measures the imbalance in the number of inputs with facet values Sex=0 and rest of the inputs.	0.973
<u>Difference in</u> <u>Proportions of Labels</u> <u>(DPL)</u>	Measures the imbalance of positive observed labels between facet values Sex=0 and rest of the inputs.	-0.019
Jensen-Shannon Divergence (JS)	Measures how much the observed label distributions of facet values Sex=0 and rest of the inputs diverge from each other entropically.	0.000
<u>Kullback-Leibler</u> <u>Divergence (KL)</u>	Measures how much the observed label distributions of facet values Sex=0 and rest of the inputs diverge from each other entropically.	0.001
Kolmogorov-Smirnov (KS)	Measures maximum divergence between the observed label distributions for facet values ${\sf Sex=0} \ \ {\sf and} \ \ {\sf rest} \ \ {\sf of} \ \ {\sf the} \ \ {\sf inputs} \ \ {\sf in} \ \ {\sf the} \ \ {\sf dataset}.$	0.019
<u>Lp-norm (LP)</u>	Measures a p-norm difference between the observed label distributions associated with facet values $Sex=0$ rest of the inputs in the dataset.	0.027
T-t-1 V-ul-ti Di-t	Measures half of the L1-norm difference between the observed label distributions associated	
(TVD)	with facet values Sex=0 and rest of the inputs in the dataset.	0.019
		0.019
(TVD)	with facet values Sex=0 and rest of the inputs in the dataset.	
(TVD) acet Value(s)/Thresho	with facet values Sex=0 and rest of the inputs in the dataset. old: product_category = Layering	Value
(TVD) acet Value(s)/Thresho	with facet values Sex=0 and rest of the inputs in the dataset. old: product_category = Layering Description	Value 0.988
(TVD) Facet Value(s)/Thresho Metric Class Imbalance (CI) Difference in Proportions of Labels	with facet values Sex=0 and rest of the inputs in the dataset. old: product_category = Layering Description Measures the imbalance in the number of inputs with facet values Sex=0 and rest of the inputs. Measures the imbalance of positive observed labels between facet values Sex=0 and rest of	Value 0.988 -0.086
(TVD) acet Value(s)/Thresho Metric Class Imbalance (CI) Difference in Proportions of Labels (DPL) Jensen-Shannon	with facet values Sex=0 and rest of the inputs in the dataset. Did: product_category = Layering Description Measures the imbalance in the number of inputs with facet values Sex=0 and rest of the inputs. Measures the imbalance of positive observed labels between facet values Sex=0 and rest of the inputs. Measures how much the observed label distributions of facet values Sex=0 and rest of the	0.988 -0.086
(TVD) Facet Value(s)/Thresho Metric Class Imbalance (CI) Difference in Proportions of Labels (DPL) Jensen-Shannon Divergence (JS) Kullback-Leibler	with facet values Sex=0 and rest of the inputs in the dataset. Did: product_category = Layering Description Measures the imbalance in the number of inputs with facet values Sex=0 and rest of the inputs. Measures the imbalance of positive observed labels between facet values Sex=0 and rest of the inputs. Measures how much the observed label distributions of facet values Sex=0 and rest of the inputs diverge from each other entropically. Measures how much the observed label distributions of facet values Sex=0 and rest of the	
(TVD) acet Value(s)/Thresho Metric Class Imbalance (CI) Difference in Proportions of Labels (DPL) Jensen-Shannon Divergence (JS) Kullback-Leibler Divergence (KL) Kolmogorov-Smirnov	with facet values Sex=0 and rest of the inputs in the dataset. Did: product_category = Layering Description Measures the imbalance in the number of inputs with facet values Sex=0 and rest of the inputs. Measures the imbalance of positive observed labels between facet values Sex=0 and rest of the inputs. Measures how much the observed label distributions of facet values Sex=0 and rest of the inputs diverge from each other entropically. Measures how much the observed label distributions of facet values Sex=0 and rest of the inputs diverge from each other entropically. Measures maximum divergence between the observed label distributions for facet values	Value 0.988 -0.086 0.006

Appendix: Analysis Configuration Parameters

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"headers": [
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  "review_body",
  "product_category"
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"label_values_or_threshold": [
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],
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  }
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  "pre_training_bias": {
     "methods": [
       "CI",
       "DPL",
       "KL",
       "JS",
       "LP",
       "TVD",
       "KS"
```

```
]
},
"report": {
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    "title": "Analysis Report"
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}
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