### **Analysis Report**

## Global dataset report

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

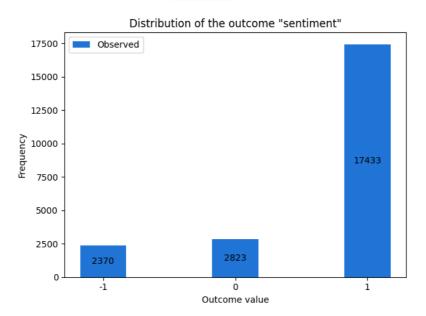
- 1. Analysis configuration
- 2. Pretraining bias metrics

#### **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.

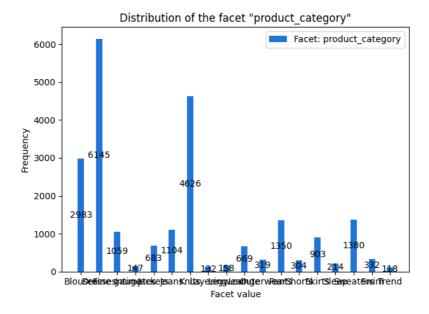
**Outcome label:** You chose the column sentiment in the input data as the outcome label. Bias metric computation requires designating the positive outcome. You chose sentiment = 1 as the positive outcome. sentiment consisted of values [-1, 0, 1].

The figure below shows the distribution of values of sentiment .



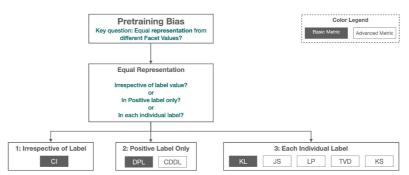
Facet: You chose the column product\_category in the input data as the facet. product\_category consisted of values ['Blouses', 'Dresses', 'Fine gauge', 'Intimates', 'Jackets', 'Jeans', 'Knits', 'Layering', 'Legwear', 'Lounge', 'Outerwear', 'Pants', 'Shorts', 'Skirts', 'Sleep', 'Sweaters', 'Swim', 'Trend'] . 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 = 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>.

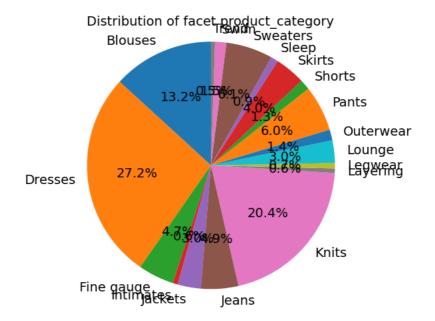


The metric values along with an informal description of what they mean are shown below. For mathematical formulas and examples, see the [Measure Pretraining Bias](https://docs.aws.amazon.com/sagemaker/latest/dg/clarify-measure-data-bias.html) section of the AWS documentation.

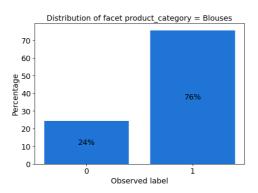
We computed the bias metrics for the label sentiment using label value(s)/threshold sentiment = 1 for the following facets:

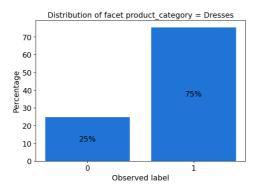
• Facet column: product\_category

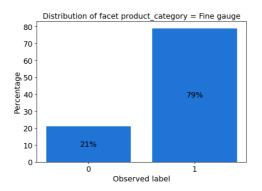
The pie chart shows the distribution of facet column product\_category in your data.

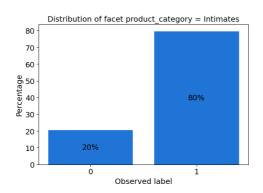


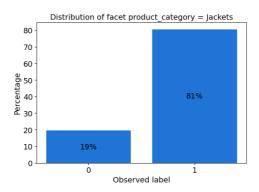
The bar plot(s) below show the distribution of facet column product\_category in your data.

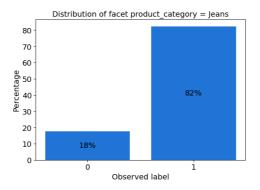


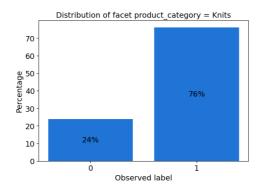


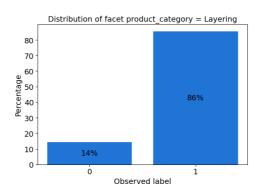


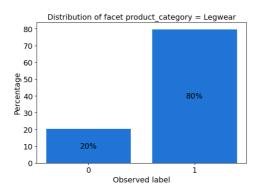


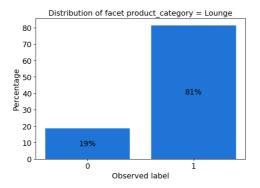


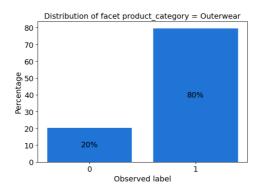


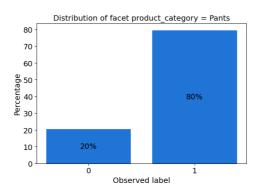


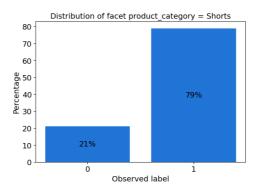


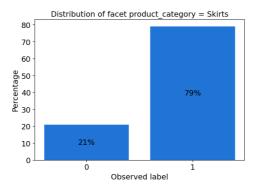


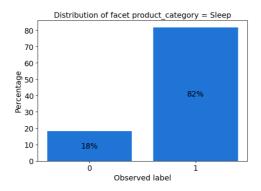


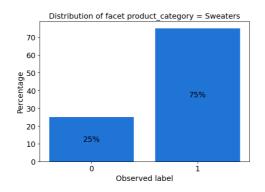


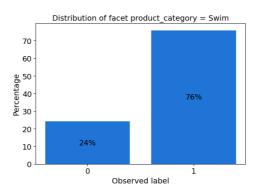


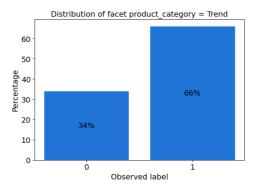












Facet Value(s)/Threshold: product\_category = Blouses

Metric	Description	Value
Class Imbalance (CI)	Measures the imbalance in the number of inputs with facet values <code>product_category = Blouses</code> 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 product_category = Blouses 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 <code>product_category = Blouses</code> 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 <code>product_category = Blouses</code> 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 $product\_category = Blouses \ and rest of the inputs in the dataset.$	0.016
<u>Lp-norm (LP)</u>	Measures a p-norm difference between the observed label distributions associated with facet values product_category = Blouses 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 product_category = Blouses and rest of the inputs in the dataset.	0.016

Facet Value(s)/Threshold: product\_category = Dresses

Metric	Description	Value
Class Imbalance (CI)	Measures the imbalance in the number of inputs with facet values product_category = Dresses and rest of the inputs.	0.457
Difference in Proportions of Labels (DPL)	Measures the imbalance of positive observed labels between facet values <code>product_category = Dresses and rest of the inputs.</code>	0.022
Jensen-Shannon Divergence (JS)	$thm:much the observed label distributions of facet values product\_category = Dresses \ and \\ rest of the inputs diverge from each other entropically.$	0.000
Kullback-Leibler Divergence (KL)	Measures how much the observed label distributions of facet values product_category = Dresses 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 product_category = Dresses and rest of the inputs in the dataset.	0.022
<u>Lp-norm (LP)</u>	Measures a p-norm difference between the observed label distributions associated with facet values product_category = Dresses 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 product_category = Dresses and rest of the inputs in the dataset.	0.022
<sup>-</sup> acet Value(s)/Thresl	nold: product_category = Pants	
Metric	Description	Value
Class Imbalance (CI)	Measures the imbalance in the number of inputs with facet values <code>product_category = Pants and rest of the inputs.</code>	0.881
<u>Difference in</u> <u>Proportions of Labels</u> (DPL)	Measures the imbalance of positive observed labels between facet values product_category = Pants 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 <code>product_category = Pants and rest of the inputs diverge from each other entropically.</code>	0.001
	rest of the inputs diverge from each other end optically.	0.001
Kullback-Leibler Divergence (KL)	Measures how much the observed label distributions of facet values product_category = Pants and rest of the inputs diverge from each other entropically.	0.001
	Measures how much the observed label distributions of facet values product_category = Pants and	
Divergence (KL)  Kolmogorov-Smirnov	Measures how much the observed label distributions of facet values product_category = Pants and rest of the inputs diverge from each other entropically.  Measures maximum divergence between the observed label distributions for facet values	0.002
Divergence (KL)  Kolmogorov-Smirnov (KS)  Lp-norm (LP)  Total Variation Distance (TVD)	Measures how much the observed label distributions of facet values product_category = Pants and rest of the inputs diverge from each other entropically.  Measures maximum divergence between the observed label distributions for facet values product_category = Pants and rest of the inputs in the dataset.  Measures a p-norm difference between the observed label distributions associated with facet values product_category = Pants rest of the inputs in the dataset.  Measures half of the L1-norm difference between the observed label distributions associated with facet values product_category = Pants and rest of the inputs in the dataset.	0.002
Divergence (KL)  Kolmogorov-Smirnov (KS)  Lp-norm (LP)  Total Variation Distance (TVD)	Measures how much the observed label distributions of facet values product_category = Pants and rest of the inputs diverge from each other entropically.  Measures maximum divergence between the observed label distributions for facet values product_category = Pants and rest of the inputs in the dataset.  Measures a p-norm difference between the observed label distributions associated with facet values product_category = Pants rest of the inputs in the dataset.  Measures half of the L1-norm difference between the observed label distributions associated with	0.002 0.027 0.038
Divergence (KL)  Kolmogorov-Smirnov (KS)  Lp-norm (LP)  Total Variation Distance (TVD)	Measures how much the observed label distributions of facet values product_category = Pants and rest of the inputs diverge from each other entropically.  Measures maximum divergence between the observed label distributions for facet values product_category = Pants and rest of the inputs in the dataset.  Measures a p-norm difference between the observed label distributions associated with facet values product_category = Pants rest of the inputs in the dataset.  Measures half of the L1-norm difference between the observed label distributions associated with facet values product_category = Pants and rest of the inputs in the dataset.	0.002 0.027 0.038 0.027
Divergence (KL)  Kolmogorov-Smirnov (KS)  Lp-norm (LP)  Total Variation Distance (TVD)  Facet Value(s)/Thresi	Measures how much the observed label distributions of facet values product_category = Pants and rest of the inputs diverge from each other entropically.  Measures maximum divergence between the observed label distributions for facet values product_category = Pants and rest of the inputs in the dataset.  Measures a p-norm difference between the observed label distributions associated with facet values product_category = Pants rest of the inputs in the dataset.  Measures half of the L1-norm difference between the observed label distributions associated with facet values product_category = Pants and rest of the inputs in the dataset.  mold: product_category = Knits	0.002 0.027 0.038 0.027
Divergence (KL)  Kolmogorov-Smirnov (KS)  Lp-norm (LP)  Total Variation Distance (TVD)  Facet Value(s)/Thresl	Measures how much the observed label distributions of facet values product_category = Pants and rest of the inputs diverge from each other entropically.  Measures maximum divergence between the observed label distributions for facet values product_category = Pants and rest of the inputs in the dataset.  Measures a p-norm difference between the observed label distributions associated with facet values product_category = Pants rest of the inputs in the dataset.  Measures half of the L1-norm difference between the observed label distributions associated with facet values product_category = Pants and rest of the inputs in the dataset.  mold: product_category = Knits  Description  Measures the imbalance in the number of inputs with facet values product_category = Knits and	0.002 0.027 0.038 0.027
Divergence (KL)  Kolmogorov-Smirnov (KS)  Lp-norm (LP)  Total Variation Distance (TVD)  Facet Value(s)/Thresl  Metric  Class Imbalance (CI)  Difference in Proportions of Labels	Measures how much the observed label distributions of facet values product_category = Pants and rest of the inputs diverge from each other entropically.  Measures maximum divergence between the observed label distributions for facet values product_category = Pants and rest of the inputs in the dataset.  Measures a p-norm difference between the observed label distributions associated with facet values product_category = Pants rest of the inputs in the dataset.  Measures half of the L1-norm difference between the observed label distributions associated with facet values product_category = Pants and rest of the inputs in the dataset.  mold: product_category = Knits  Description  Measures the imbalance in the number of inputs with facet values product_category = Knits and rest of the inputs.  Measures the imbalance of positive observed labels between facet values product_category = Knits	0.002 0.027 0.038 0.027 <b>Value</b> 0.591

Measures maximum divergence between the observed label distributions for facet values

Measures a p-norm difference between the observed label distributions associated with facet values

 $\label{thm:local_model} \mbox{Measures half of the L1-norm difference between the observed label distributions associated with}$ 

product\_category = Knits and rest of the inputs in the dataset.

facet values product\_category = Knits and rest of the inputs in the dataset.

product\_category = Knits rest of the inputs in the dataset.

0.011

0.016

0.011

Facet Value(s)/Threshold: product\_category = Intimates

<u>Divergence (KL)</u> <u>Kolmogorov-Smirnov</u>

Lp-norm (LP)

<u>Total Variation</u>

Distance (TVD)

Metric	Description	Value
Class Imbalance (CI)	Measures the imbalance in the number of inputs with facet values product_category = Intimates 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 <code>product_category = Intimates</code> and rest of the inputs.	-0.026
Jensen-Shannon Divergence (JS)	Measures how much the observed label distributions of facet values product_category = Intimates and rest of the inputs diverge from each other entropically.	0.000
Kullback-Leibler Divergence (KL)	Measures how much the observed label distributions of facet values product_category = Intimates 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 product_category = Intimates 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 $ product\_category = Intimates                                    $	0.036
<u>Total Variation</u> <u>Distance (TVD)</u>	Measures half of the L1-norm difference between the observed label distributions associated with facet values product_category = Intimates and rest of the inputs in the dataset.	0.026
Facet Value(s)/Thres	hold: product_category = Outerwear	
Metric	Description	Value
Class Imbalance (CI)	Measures the imbalance in the number of inputs with facet values product_category = Outerwear 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 <code>product_category = Outerwear</code> and rest of the inputs.	-0.026
Jensen-Shannon Divergence (JS)	Measures how much the observed label distributions of facet values <code>product_category = Outerwear</code> and rest of the inputs diverge from each other entropically.	0.001
Kullback-Leibler Divergence (KL)	Measures how much the observed label distributions of facet values product_category = Outerwear and rest of the inputs diverge from each other entropically.	0.002
Kolmogorov-Smirnov	Measures maximum divergence between the observed label distributions for facet values	0.026

0.037

0.026

Facet Value(s)/Threshold: product\_category = Lounge

(KS)

Lp-norm (LP)

<u>Total Variation</u>

Distance (TVD)

Metric	Description	Value
Class Imbalance (CI)	Measures the imbalance in the number of inputs with facet values <code>product_category = Lounge and rest of the inputs.</code>	0.941
<u>Difference in</u> <u>Proportions of Labels</u> (DPL)	Measures the imbalance of positive observed labels between facet values product_category = Lounge and rest of the inputs.	-0.046
<u>Jensen-Shannon</u> <u>Divergence (JS)</u>	Measures how much the observed label distributions of facet values <code>product_category = Lounge and rest of the inputs diverge from each other entropically.</code>	0.002
<u>Kullback-Leibler</u> <u>Divergence (KL)</u>	Measures how much the observed label distributions of facet values <code>product_category = Lounge and rest of the inputs diverge from each other entropically.</code>	0.006
Kolmogorov-Smirnov (KS)	Measures maximum divergence between the observed label distributions for facet values product_category = Lounge and rest of the inputs in the dataset.	0.046
<u>Lp-norm (LP)</u>	Measures a p-norm difference between the observed label distributions associated with facet values $product\_category = Lounge \ rest of the inputs in the dataset.$	0.064
<u>Total Variation</u> <u>Distance (TVD)</u>	Measures half of the L1-norm difference between the observed label distributions associated with facet values product_category = Lounge and rest of the inputs in the dataset.	0.046
Facet Value(s)/Thres	hold: product_category = Sweaters	

product\_category = Outerwear and rest of the inputs in the dataset.

product\_category = Outerwear rest of the inputs in the dataset.

Measures a p-norm difference between the observed label distributions associated with facet values

 $\label{thm:local_model} \mbox{Measures half of the L1-norm difference between the observed label distributions associated with}$ 

facet values product\_category = Outerwear and rest of the inputs in the dataset.

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

Metric	Description	Value
Class Imbalance (CI)	Measures the imbalance in the number of inputs with facet values product_category = Fine gauge and rest of the inputs.	0.906
<u>Difference in</u> <u>Proportions of Labels</u> (DPL)	Measures the imbalance of positive observed labels between facet values product_category = Fine gauge and rest of the inputs.	-0.021
<u>Jensen-Shannon</u> <u>Divergence (JS)</u>	Measures how much the observed label distributions of facet values <code>product_category = Fine gauge and rest of the inputs diverge from each other entropically.</code>	0.000
<u>Kullback-Leibler</u> <u>Divergence (KL)</u>	Measures how much the observed label distributions of facet values product_category = Fine gauge 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 product_category = Fine gauge and rest of the inputs in the dataset.	0.021
<u>Lp-norm (LP)</u>	Measures a p-norm difference between the observed label distributions associated with facet values product_category = Fine gauge rest of the inputs in the dataset.	0.029
Total Variation Distance (TVD)	Measures half of the L1-norm difference between the observed label distributions associated with facet values product_category = Fine gauge and rest of the inputs in the dataset.	0.021
Facet Value(s)/Thres	hold: product_category = Sleep	

Metric	Description	Value
Class Imbalance (CI)	Measures the imbalance in the number of inputs with facet values <code>product_category = Sleep and rest of the inputs.</code>	0.981
<u>Difference in</u> <u>Proportions of Labels</u> (DPL)	Measures the imbalance of positive observed labels between facet values product_category = Sleep and rest of the inputs.	-0.048
Jensen-Shannon Divergence (JS)	Measures how much the observed label distributions of facet values <code>product_category = Sleep and rest of the inputs diverge from each other entropically.</code>	0.002
<u>Kullback-Leibler</u> <u>Divergence (KL)</u>	Measures how much the observed label distributions of facet values <code>product_category = Sleep</code> 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 product_category = Sleep and rest of the inputs in the dataset.	0.048
<u>Lp-norm (LP)</u>	Measures a p-norm difference between the observed label distributions associated with facet values $product\_category = Sleep \ rest of the inputs in the dataset.$	0.067
<u>Total Variation</u> <u>Distance (TVD)</u>	Measures half of the L1-norm difference between the observed label distributions associated with facet values product_category = Sleep and rest of the inputs in the dataset.	0.048
Facet Value(s)/Thresh	nold: product_category = Jackets	
Metric	Description	Value
Class Imbalance (CI)	Measures the imbalance in the number of inputs with facet values <code>product_category = Jackets and rest of the inputs.</code>	0.940
Difference in Proportions of Labels (DPL)	Measures the imbalance of positive observed labels between facet values <code>product_category = Jackets and rest of the inputs.</code>	-0.036
Jensen-Shannon Divergence (JS)	Measures how much the observed label distributions of facet values <code>product_category = Jackets</code> 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 product_category = Jackets 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 product_category = Jackets and rest of the inputs in the dataset.	0.036
<u>Lp-norm (LP)</u>	Measures a p-norm difference between the observed label distributions associated with facet values $product\_category = Jackets  rest of the inputs in the dataset.$	0.051
<u>Total Variation</u> <u>Distance (TVD)</u>	Measures half of the L1-norm difference between the observed label distributions associated with facet values product_category = Jackets and rest of the inputs in the dataset.	0.036
Facet Value(s)/Thresh	nold: product_category = Swim	
Metric	Description	Value
Class Imbalance (CI)	Measures the imbalance in the number of inputs with facet values product_category = Swim 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 product_category = Swim and rest of the inputs.	0.012
Jensen-Shannon Divergence (JS)	Measures how much the observed label distributions of facet values <code>product_category = Swim and rest of the inputs diverge from each other entropically.</code>	0.000
Kullback-Leibler Divergence (KL)	Measures how much the observed label distributions of facet values <code>product_category = Swim and rest of the inputs diverge from each other entropically.</code>	0.000
Kolmogorov-Smirnov (KS)	Measures maximum divergence between the observed label distributions for facet values product_category = Swim and rest of the inputs in the dataset.	0.012
<u>Lp-norm (LP)</u>	Measures a p-norm difference between the observed label distributions associated with facet values $product\_category = Swim  rest of the inputs in the dataset.$	0.016

facet values  $\mbox{ product\_category} = \mbox{Swim } \mbox{ and rest of the inputs in the dataset}.$ 

0.012

Measures half of the L1-norm difference between the observed label distributions associated with

 $Facet\ Value(s)/Threshold:\ product\_category = Trend$ 

<u>Total Variation</u>

Distance (TVD)

Metric	Description	Value
Class Imbalance (CI)	Measures the imbalance in the number of inputs with facet values	0.990
<u>Difference in</u> roportions of Labels (DPL)	Measures the imbalance of positive observed labels between facet values product_category = Trend and rest of the inputs.	0.110
Jensen-Shannon Divergence (JS)	Measures how much the observed label distributions of facet values <code>product_category = Trend</code> and rest of the inputs diverge from each other entropically.	0.007
Kullback-Leibler Divergence (KL)	Measures how much the observed label distributions of facet values product_category = Trend and rest of the inputs diverge from each other entropically.	0.029
(olmogorov-Smirnov (KS)	Measures maximum divergence between the observed label distributions for facet values $product\_category = Trend \  \   and  rest  of  the  inputs  in  the  dataset.$	0.110
<u>Lp-norm (LP)</u>	Measures a p-norm difference between the observed label distributions associated with facet values $product\_category = Trend  rest of the inputs in the dataset.$	0.156
<u>Total Variation</u> <u>Distance (TVD)</u>	Measures half of the L1-norm difference between the observed label distributions associated with facet values product category = Trend and rest of the inputs in the dataset.	0.110
cet Value(s)/Thresh	nold: product_category = Jeans	
		Value
Metric	Description	
Metric		<b>Value</b> 0.902
Metric  Class Imbalance (CI)  Difference in	Description  Measures the imbalance in the number of inputs with facet values product_category = Jeans and	
Metric  Class Imbalance (CI)  Difference in Proportions of Labels	Measures the imbalance in the number of inputs with facet values product_category = Jeans and rest of the inputs.  Measures the imbalance of positive observed labels between facet values product_category = Jeans	0.902
Metric  Class Imbalance (CI)  Difference in Proportions of Labels (DPL) Jensen-Shannon	Measures the imbalance in the number of inputs with facet values product_category = Jeans and rest of the inputs.  Measures the imbalance of positive observed labels between facet values product_category = Jeans and rest of the inputs.  Measures how much the observed label distributions of facet values product_category = Jeans and	0.902
Metric  Class Imbalance (CI)  Difference in Proportions of Labels (DPL)  Jensen-Shannon Divergence (JS)  Kullback-Leibler Divergence (KL)	Measures the imbalance in the number of inputs with facet values product_category = Jeans and rest of the inputs.  Measures the imbalance of positive observed labels between facet values product_category = Jeans and rest of the inputs.  Measures how much the observed label distributions of facet values product_category = Jeans and rest of the inputs diverge from each other entropically.  Measures how much the observed label distributions of facet values product_category = Jeans and	0.902 -0.056 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 product_category = Jeans and rest of the inputs.  Measures the imbalance of positive observed labels between facet values product_category = Jeans and rest of the inputs.  Measures how much the observed label distributions of facet values product_category = Jeans and rest of the inputs diverge from each other entropically.  Measures how much the observed label distributions of facet values product_category = Jeans and rest of the inputs diverge from each other entropically.  Measures maximum divergence between the observed label distributions for facet values	0.902 -0.056 0.002 0.010
Metric  Class Imbalance (CI)  Difference in Proportions of Labels (DPL)  Jensen-Shannon Divergence (JS)  Kullback-Leibler Divergence (KL)  Kolmogorov-Smirnov (KS)	Measures the imbalance in the number of inputs with facet values product_category = Jeans and rest of the inputs.  Measures the imbalance of positive observed labels between facet values product_category = Jeans and rest of the inputs.  Measures how much the observed label distributions of facet values product_category = Jeans and rest of the inputs diverge from each other entropically.  Measures how much the observed label distributions of facet values product_category = Jeans and rest of the inputs diverge from each other entropically.  Measures maximum divergence between the observed label distributions for facet values product_category = Jeans and rest of the inputs in the dataset.  Measures a p-norm difference between the observed label distributions associated with facet values	0.902 -0.056 0.002 0.010 0.056
Metric  Class Imbalance (CI)  Difference in Proportions of Labels (DPL)  Jensen-Shannon Divergence (JS)  Kullback-Leibler Divergence (KL)  Kolmogorov-Smirnov (KS)  Lp-norm (LP)  Total Variation Distance (TVD)	Measures the imbalance in the number of inputs with facet values product_category = Jeans and rest of the inputs.  Measures the imbalance of positive observed labels between facet values product_category = Jeans and rest of the inputs.  Measures how much the observed label distributions of facet values product_category = Jeans and rest of the inputs diverge from each other entropically.  Measures how much the observed label distributions of facet values product_category = Jeans and rest of the inputs diverge from each other entropically.  Measures maximum divergence between the observed label distributions for facet values product_category = Jeans and rest of the inputs in the dataset.  Measures a p-norm difference between the observed label distributions associated with facet values product_category = Jeans rest of the inputs in the dataset.  Measures half of the L1-norm difference between the observed label distributions associated with	0.902 -0.056 0.002 0.010 0.056

Metric	Description	Value
Class Imbalance (CI)	Measures the imbalance in the number of inputs with facet values product_category = Legwear and rest of the inputs.	0.986
Difference in Proportions of Labels (DPL)	Measures the imbalance of positive observed labels between facet values <code>product_category = Legwear</code> 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 product_category = Legwear 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 product_category = Legwear 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 product_category = Legwear and rest of the inputs in the dataset.	0.027
<u>Lp-norm (LP)</u>	Measures a p-norm difference between the observed label distributions associated with facet values $ product\_category = Legwear  rest of the inputs in the dataset. $	0.038
Total Variation <u>Distance (TVD)</u>	Measures half of the L1-norm difference between the observed label distributions associated with facet values product_category = Legwear and rest of the inputs in the dataset.	0.027
Facet Value(s)/Thresh	nold: product_category = Shorts	

Metric	Description	Value
Class Imbalance (CI)	Measures the imbalance in the number of inputs with facet values <code>product_category = Shorts and rest of the inputs.</code>	0.973
<u>Difference in</u> <u>Proportions of Labels</u> (DPL)	Measures the imbalance of positive observed labels between facet values <code>product_category = Shorts and rest of the inputs.</code>	-0.019
<u>Jensen-Shannon</u> <u>Divergence (JS)</u>	Measures how much the observed label distributions of facet values <code>product_category = Shorts and rest of the inputs diverge from each other entropically.</code>	0.000
<u>Kullback-Leibler</u> <u>Divergence (KL)</u>	Measures how much the observed label distributions of facet values product_category = Shorts 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 $product\_category = Shorts \   and  rest  of  the  inputs  in  the  dataset.$	0.019
<u>Lp-norm (LP)</u>	Measures a p-norm difference between the observed label distributions associated with facet values $ product\_category = Shorts  rest of the inputs in the dataset. $	0.027
Total Variation Distance (TVD)	Measures half of the L1-norm difference between the observed label distributions associated with facet values $product\_category = Shorts$ and rest of the inputs in the dataset.	0.019
Facet Value(s)/Thres	hold: product_category = Layering	

Metric	Description	Value
Class Imbalance (CI)	Measures the imbalance in the number of inputs with facet values product_category = Layering and rest of the inputs.	0.988
<u>Difference in</u> <u>Proportions of Labels</u> (DPL)	Measures the imbalance of positive observed labels between facet values <code>product_category = Layering</code> and rest of the inputs.	-0.086
Jensen-Shannon Divergence (JS)	Measures how much the observed label distributions of facet values product_category = Layering and rest of the inputs diverge from each other entropically.	0.006
<u>Kullback-Leibler</u> <u>Divergence (KL)</u>	Measures how much the observed label distributions of facet values product_category = Layering and rest of the inputs diverge from each other entropically.	0.026
Kolmogorov-Smirnov (KS)	Measures maximum divergence between the observed label distributions for facet values product_category = Layering and rest of the inputs in the dataset.	0.086
<u>Lp-norm (LP)</u>	Measures a p-norm difference between the observed label distributions associated with facet values $ product\_category = Layering \\ rest of the inputs in the dataset. $	0.122
Total Variation Distance (TVD)	Measures half of the L1-norm difference between the observed label distributions associated with facet values product_category = Layering and rest of the inputs in the dataset.	0.086

# **Appendix: Analysis Configuration Parameters**

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  "product_category"
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       "DPL",
       "KL",
       "JS",
       "LP",
```

```
"TVD",

"KS"

]

},

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    "name": "report",

    "title": "Analysis Report"

}

}
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