

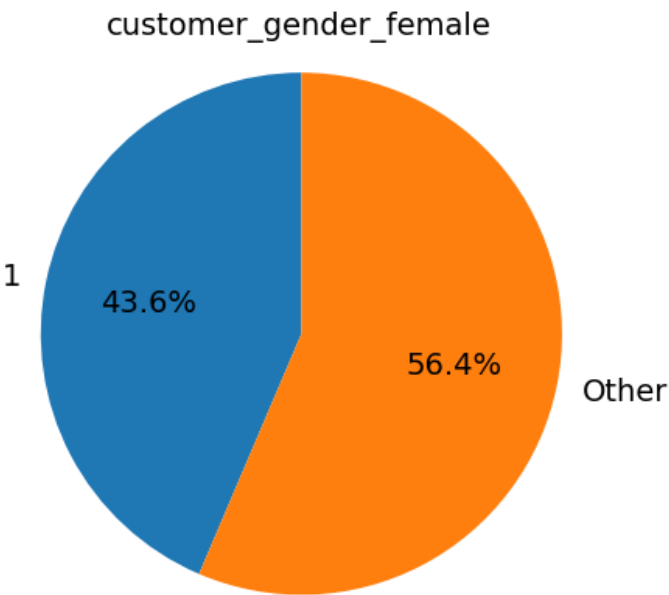
Analysis Report

We report the following SageMaker analysis.

Pre-training Bias Metrics

We computed the bias metrics for the label `fraud` using label value(s)/threshold `0` for the below facets.

- customer_gender_female**
The groups are represented in the dataset with the following proportions.



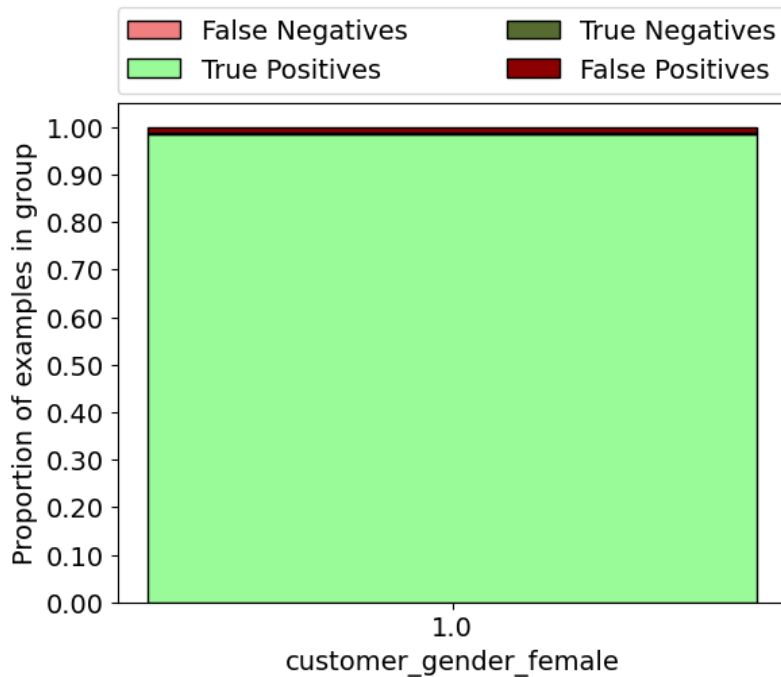
Value(s)/Threshold: 1

name	description	value
CI	Class Imbalance (CI)	0.128461

Post-training Bias Metrics

We computed the bias metrics for the label `fraud` using label value(s)/threshold `0` for the below facets.

- customer_gender_female**
The labels and predictions of the group have the following proportions.



Positive labels = TP + FN --- Used in the following metrics: DPL, JS, KL, KS, LP, TVD
 Negative labels = TN + FP
 Positive predictions = TP + FP --- Used in the following metrics: DI
 Negative predictions = TN + FN
 Accuracy = TP + TN --- Used in the following metrics: AD
 Recall = TP / (TP + FN) --- Used in the following metrics: RD
 Precision = TP / (TP + FP) --- Used in the following metrics: DAR
 Value(s)/Threshold: 1

name	description	value
DPPL	Difference in Positive Proportions in Predicted...	-0.000754

Analysis Configuration Parameters

```
{
  "dataset_type": "text/csv",
  "headers": [
    "fraud",
    "num_vehicles_involved",
    "num_injuries",
    "num_witnesses",
    "police_report_available",
    "injury_claim",
    "vehicle_claim",
    "total_claim_amount",
    "incident_month",
    "incident_day",
    "incident_dow",
    "incident_hour",
    "customer_age",
    "months_as_customer",
    "num_claims_past_year",
    "num_insurers_past_5_years",
    "policy_deductable",
    "policy_annual_premium",
    "policy_liability",
    "customer_education",
    "auto_year",
    "driver_relationship_other",
    "driver_relationship_child",
    ...
  ]
}
```

```

        "driver_relationship_spouse",
        "driver_relationship_na",
        "driver_relationship_self",
        "incident_type_collision",
        "incident_type_break-in",
        "incident_type_theft",
        "collision_type_rear",
        "collision_type_side",
        "collision_type_na",
        "collision_type_front",
        "incident_severity_totaled",
        "incident_severity_major",
        "incident_severity_minor",
        "authorities_contacted_fire",
        "authorities_contacted_none",
        "authorities_contacted_police",
        "authorities_contacted_ambulance",
        "policy_state_ca",
        "policy_state_az",
        "policy_state_nv",
        "policy_state_id",
        "policy_state_wa",
        "policy_state_or",
        "customer_gender_other",
        "customer_gender_male",
        "customer_gender_female"
    ],
    "label": "fraud",
    "label_values_or_threshold": [
        0
    ],
    "facet": [
        {
            "name_or_index": "customer_gender_female",
            "value_or_threshold": [
                1
            ]
        }
    ],
    "predictor": {
        "model_name": "fraud-detect-xgb-model",
        "instance_type": "ml.m4.xlarge",
        "initial_instance_count": 1,
        "accept_type": "text/csv"
    },
    "probability_threshold": 0.5,
    "methods": {
        "pre_training_bias": {
            "methods": [
                "CI"
            ]
        },
        "post_training_bias": {
            "methods": [
                "DPPL"
            ]
        },
        "report": {
            "name": "report",
            "title": "Analysis Report"
        }
    }
}

```

