

# Model Audit Report

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## Drift Detection Summary

True of 4 features showed significant drift.

|                | ks_stat | p_value | drift_detected | method |
|----------------|---------|---------|----------------|--------|
| age            | 0.224   | 0       | 1              | ks     |
| income         | 0.08    | 0.0033  | 1              | ks     |
| true_cost      | 0.119   | 0       | 1              | ks     |
| predicted_cost | 0.131   | 0       | 1              | ks     |

## Fairness Audit Summary

| group    | count | mae     | rmse    | bias    |
|----------|-------|---------|---------|---------|
| Asian    | 258   | 1984.12 | 2538.48 | 825.078 |
| Black    | 218   | 2101.16 | 2615.81 | 646.461 |
| White    | 269   | 2056.23 | 2610.71 | 86.6858 |
| Hispanic | 255   | 2238.11 | 2837.6  | 923.441 |

## Outlier Detection Summary

| index | age     | income  | true_cost | predicted_cost | anomaly_score | outlier_flag |
|-------|---------|---------|-----------|----------------|---------------|--------------|
| 831   | 31.0681 | 68918.9 | -1130.19  | 824.117        | -0.0820556    | -1           |
| 360   | 41.4613 | 64518.8 | 1673.9    | 598.781        | -0.0603301    | -1           |
| 897   | 58.6563 | 49164.3 | -606.511  | 1007.68        | -0.0469888    | -1           |
| 525   | 39.3655 | 35139   | 2732.06   | 5227.29        | -0.0426778    | -1           |
| 718   | 37.7903 | 61368.6 | 4357.11   | 407.423        | -0.0367111    | -1           |
| 111   | 51.195  | 39561.8 | 42174.3   | 45324.2        | -0.034771     | -1           |
| 956   | 15.0167 | 41474.7 | 37262     | 38279.8        | -0.0207648    | -1           |
| 510   | 29.5889 | 50632.3 | 3274.51   | 3553.57        | -0.0108428    | -1           |
| 844   | 24.0329 | 46317.4 | 37331.5   | 40386.4        | -0.00485778   | -1           |
| 866   | 20.5949 | 42969   | 9761.97   | 4754.68        | -0.00403675   | -1           |