Universal Analyst Report

Comprehensive Analysis of Task 5 Equality Table Dataset

Report Date: 2025-08-16 00:19:18
Dataset Name: Task 5 Equality Table
Analysis Type: Full EDA & Modeling
Report Version: 1.0

Universal Analyst Model Report

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Dataset: Task 5 Equality Table

Step 1: Dataset Overview

- info: Metadata from preprocessing step

Step 2: Exploratory Data Analysis (EDA)

Exploratory Data Analysis Report

Dataset Overview

- Number of rows: 37
- Number of columns: 4

Summary Statistics

Numerical Features

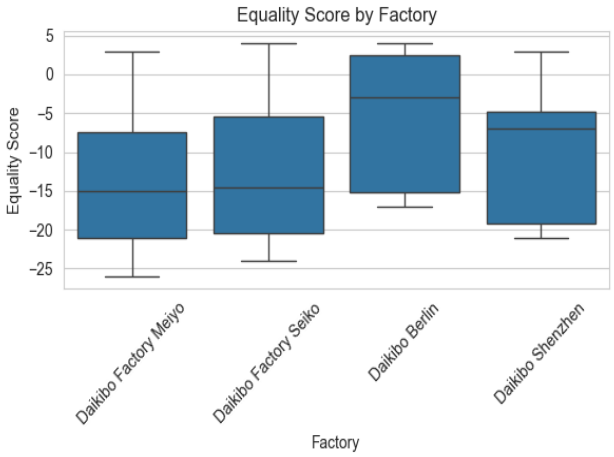
	count	mean	median	std	min	max	skew	kurtosis
Equality Score	37	-11.027	-10	9.41773	-26	4	0.151506	-1.26863

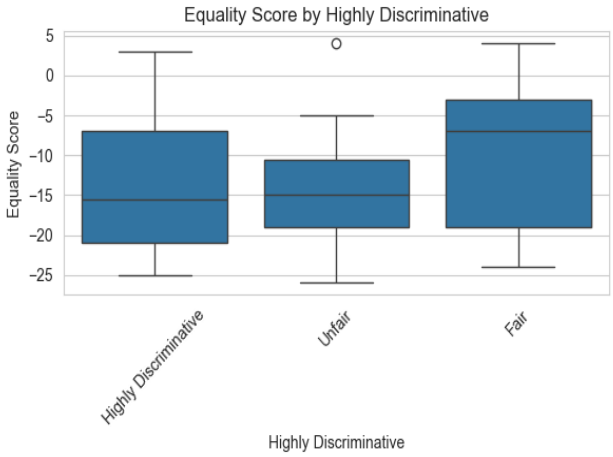
Categorical Features

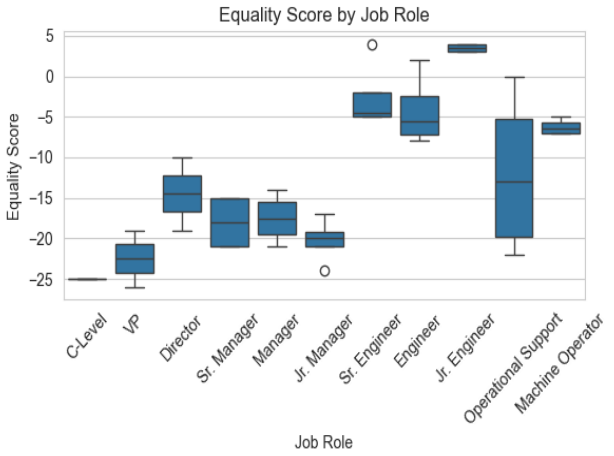
	unique_count	mode_freq	missing
Factory	4	11	0
Job Role	11	4	0
Highly Discriminative	3	20	0

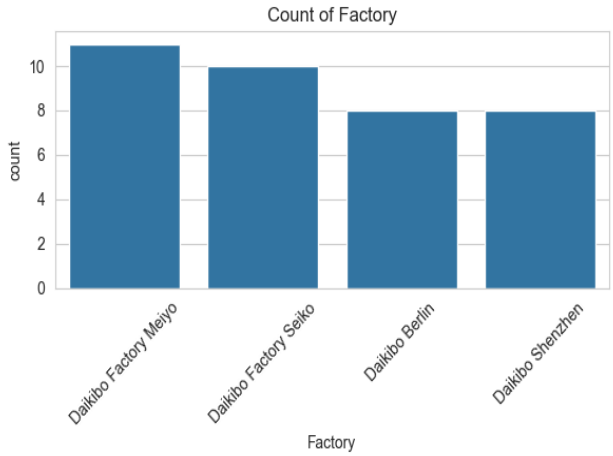
Key Insights

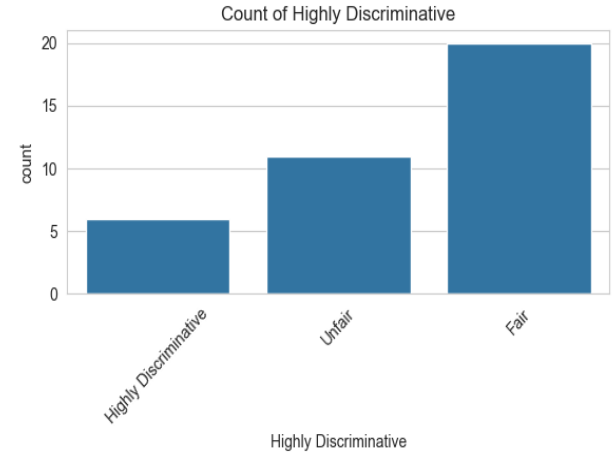
Visualizations

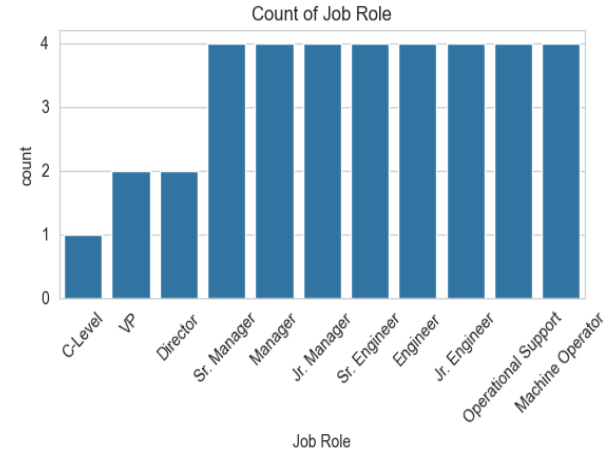


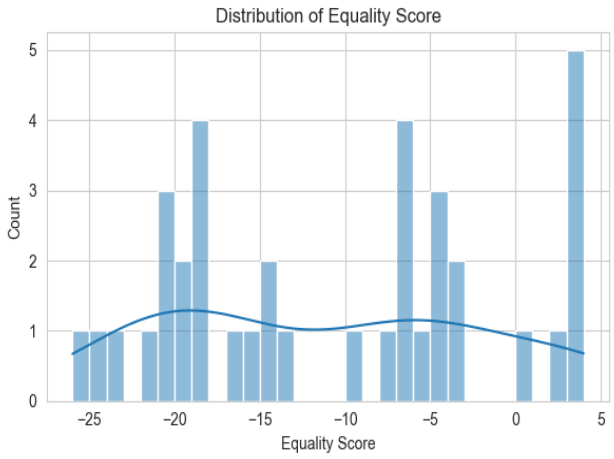












Step 3: Insight Extraction

Data Insight Report

Dataset Summary

- Number of rows: 37
- Number of columns: 4
- Target column: Highly Discriminative
- Problem type: classification

Top Influential Features

- Job Role_Jr. Manager: Mutual Information Score = 0.1884
- Job Role_Sr. Manager: Mutual Information Score = 0.1213
- Job Role_Sr. Engineer: Mutual Information Score = 0.1051
- Job Role_Engineer: Mutual Information Score = 0.0863
- Job Role_Machine Operator: Mutual Information Score = 0.0827
- Equality Score: Mutual Information Score = 0.0685
- Job Role_Director: Mutual Information Score = 0.0677
- Job Role_Operational Support: Mutual Information Score = 0.0441
- Factory_Daikibo Factory Meiyo: Mutual Information Score = 0.0000
- Factory_Daikibo Factory Seiko: Mutual Information Score = 0.0000

Summary Statistics of Top Features

- Equality Score: Mean = -11.0270, Median = -10.0000, Std = 9.4177

Outlier Counts per Numeric Feature

- Equality Score: 0 outliers detected

Next Steps

- Consider building predictive models using the identified influential features.

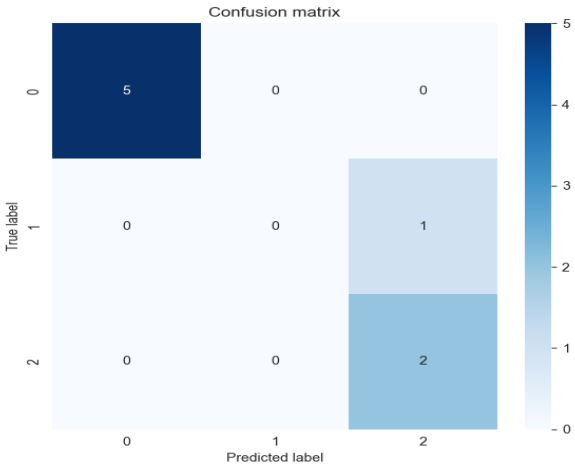
Step 4: Modeling and Prediction

Model Evaluation Report

Problem type: classification

LogisticRegression

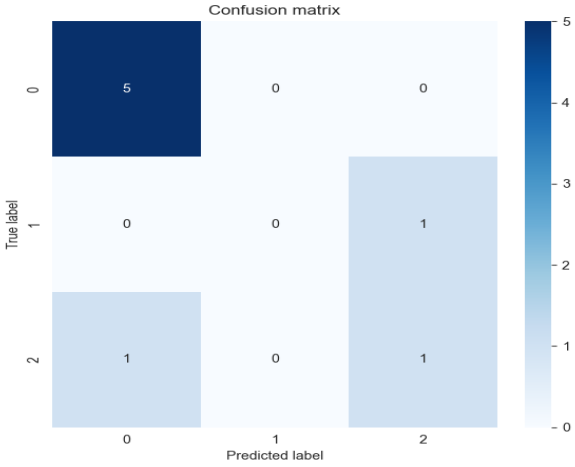
- accuracy: 0.8750
- precision: 0.7917
- recall: 0.8750



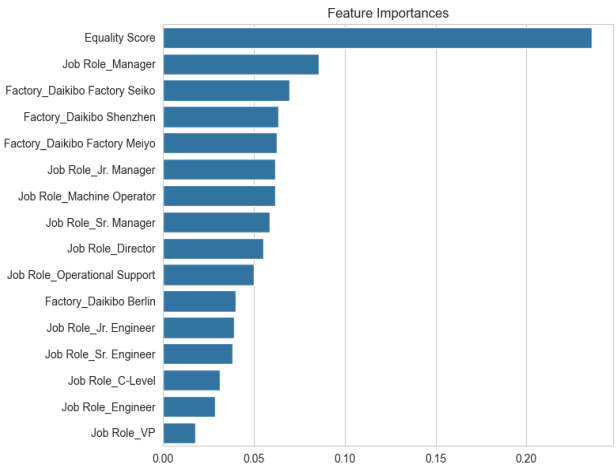
- f1_score: 0.8250

RandomForestClassifier

- accuracy: 0.7500
- precision: 0.6458
- recall: 0.7500

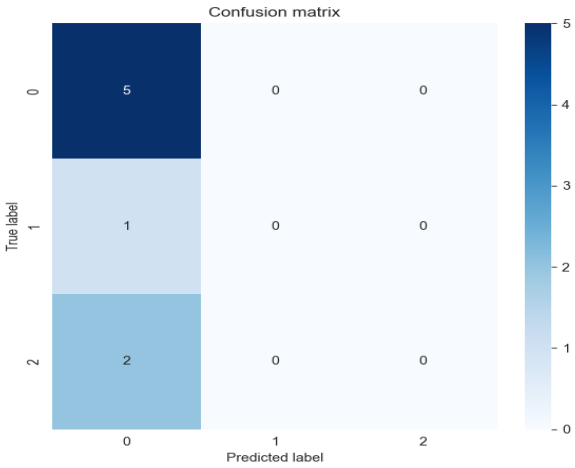


- f1_score: 0.6932



SVC

- accuracy: 0.6250
- precision: 0.3906
- recall: 0.6250



- f1_score: 0.4808

Conclusion

This report summarizes the data ingestion, preprocessing, exploratory analysis, insights, and modeling results. Further analysis and model tuning may be required based on business needs.
