Validation Report for kaggle - customer_churn_dataset_kaggle_20250314232637.csv

Issues:

missing_data - customerID: 0 missing (0.00%)
missing_data - gender: 0 missing (0.00%)
missing_data - SeniorCitizen: 0 missing (0.00%)
missing_data - Partner: 0 missing (0.00%)
missing_data - Dependents: 0 missing (0.00%)
missing_data - tenure: 0 missing (0.00%)
missing_data - PhoneService: 0 missing (0.00%)
missing_data - MultipleLines: 0 missing (0.00%)
missing_data - InternetService: 0 missing (0.00%)
missing_data - OnlineSecurity: 0 missing (0.00%)
missing_data - OnlineBackup: 0 missing (0.00%)
missing_data - DeviceProtection: 0 missing (0.00%)
missing_data - TechSupport: 0 missing (0.00%)
missing_data - StreamingTV: 0 missing (0.00%)
missing_data - StreamingMovies: 0 missing (0.00%)
missing_data - Contract: 0 missing (0.00%)
missing_data - PaperlessBilling: 0 missing (0.00%)
missing_data - PaymentMethod: 0 missing (0.00%)
missing_data - MonthlyCharges: 0 missing (0.00%)
missing_data - TotalCharges: 0 missing (0.00%)
missing_data - Churn: 0 missing (0.00%)
tenure: 0 out of 7043 rows (0.00%) are outside the expected range (0, 100).
MonthlyCharges: 0 out of 7043 rows (0.00%) are outside the expected range (0, 500).
TotalCharges: 0 out of 7043 rows (0.00%) are outside the expected range (0, 10000).
gender: 0 invalid values out of 7043 rows (0.00%). (All values valid)
InternetService: 0 invalid values out of 7043 rows (0.00%). (All values valid)
Contract: Unique values: ['Month-to-month', 'One year', 'Two year']
MultipleLines: Unique values: ['No phone service', 'No', 'Yes']
StreamingMovies: Unique values: ['No', 'Yes', 'No internet service']
PaymentMethod: Unique values: ['Electronic check', 'Mailed check', 'Bank transfer (automatic)', 'Credit card (automatic)']
Dependents: Unique values: ['No', 'Yes']
OnlineSecurity: Unique values: ['No', 'Yes', 'No internet service']
Churn: Unique values: ['No', 'Yes']
PaperlessBilling: Unique values: ['Yes', 'No']
OnlineBackup: Unique values: ['Yes', 'No', 'No internet service']
PhoneService: Unique values: ['No', 'Yes']
DeviceProtection: Unique values: ['No', 'Yes', 'No internet service']
TechSupport: Unique values: ['No', 'Yes', 'No internet service']
Partner: Unique values: ['Yes', 'No']
StreamingTV: Unique values: ['No', 'Yes', 'No internet service']
duplicates: 0 duplicate rows found out of 7043 rows (0.00%).
outliers - tenure: 0 out of 7043 rows (0.00%) are outliers.
outliers - MonthlyCharges: 0 out of 7043 rows (0.00%) are outliers.

outliers - TotalCharges: 0 out of 7043 rows (0.00%) are outliers.

Resolutions:

missing_data - customerID: No action needed.
missing_data - gender: No action needed.
missing_data - SeniorCitizen: No action needed.
missing_data - Partner: No action needed.
missing_data - Dependents: No action needed.
missing_data - tenure: No action needed.
missing_data - PhoneService: No action needed.
missing_data - MultipleLines: No action needed.
missing_data - InternetService: No action needed.
missing_data - OnlineSecurity: No action needed.
missing_data - OnlineBackup: No action needed.
missing_data - DeviceProtection: No action needed.
missing_data - TechSupport: No action needed.
missing_data - StreamingTV: No action needed.
missing_data - StreamingMovies: No action needed.
missing_data - Contract: No action needed.
missing_data - PaperlessBilling: No action needed.
missing_data - PaymentMethod: No action needed.
missing_data - MonthlyCharges: No action needed.
missing_data - TotalCharges: No action needed.
missing_data - Churn: No action needed.
tenure: Review and correct data entries or adjust the expected range if appropriate.
MonthlyCharges: Review and correct data entries or adjust the expected range if appropriate.
TotalCharges: Review and correct data entries or adjust the expected range if appropriate.
gender: Review unexpected categorical values and consider mapping them to valid values.
InternetService: Review unexpected categorical values and consider mapping them to valid values.
Contract: No specific resolution suggested.
MultipleLines: No specific resolution suggested.
StreamingMovies: No specific resolution suggested.
PaymentMethod: No specific resolution suggested.
Dependents: No specific resolution suggested.
OnlineSecurity: No specific resolution suggested.
Churn: No specific resolution suggested.
PaperlessBilling: No specific resolution suggested.
OnlineBackup: No specific resolution suggested.
PhoneService: No specific resolution suggested.
DeviceProtection: No specific resolution suggested.
TechSupport: No specific resolution suggested.
Partner: No specific resolution suggested.
StreamingTV: No specific resolution suggested.
duplicates: Consider removing duplicate rows based on 'customerID'.
outliers - tenure: Review outlier values; consider transformation or removal if they are errors.
outliers - MonthlyCharges: Review outlier values; consider transformation or removal if they are errors.

outliers - TotalCharges: Review outlier values; consider transformation or removal if they are errors.