

EDA Report

Experiment: eda

Generated: 2026-01-29 14:26:36

Overview - Metrics

- rows: 10000
- rows_original: 200000
- columns: 34
- data_path: .\data\synthetic_bank_aml_200k.csv
- duplicate_ratio: 0.0
- numeric_columns: txn_amount, account_age_days, kyc_risk_score, num_txn_24h, avg_amount_7d, is_pep, sanctions_match, is_cross_border, is_fintech_rail, origin_country_code, destination_country_code, ip_country_code, currency_code, txn_channel_code, payment_rail_code, txn_type_code, merchant_category_code, device_type_code, is_suspicious
- categorical_columns: currency, origin_country, destination_country, txn_channel, payment_rail, txn_type, merchant_category, device_type, ip_country
- datetime_columns:
- text_columns: txn_id, txn_datetime, customer_id, account_id, counterparty_account_id, device_id
- boolean_columns:
- other_columns:
 - unique_counts.txn_id: 10000
 - unique_counts.txn_datetime: 5807
 - unique_counts.customer_id: 9066
 - unique_counts.account_id: 9395
 - unique_counts.counterparty_account_id: 9630
 - unique_counts.txn_amount: 8656
 - unique_counts.currency: 14
 - unique_counts.origin_country: 18
 - unique_counts.destination_country: 18
 - unique_counts.txn_channel: 5
 - unique_counts.payment_rail: 14
 - unique_counts.txn_type: 8
 - unique_counts.merchant_category: 10
 - unique_counts.device_type: 4
 - unique_counts.device_id: 9756
 - unique_counts.ip_country: 18
 - unique_counts.account_age_days: 3422
 - unique_counts.kyc_risk_score: 4881
 - unique_counts.num_txn_24h: 78
 - unique_counts.avg_amount_7d: 6018
 - unique_counts.is_pep: 2
 - unique_counts.sanctions_match: 2
 - unique_counts.is_cross_border: 2
 - unique_counts.is_fintech_rail: 2
 - unique_counts.origin_country_code: 18
 - unique_counts.destination_country_code: 18
 - unique_counts.ip_country_code: 18
 - unique_counts.currency_code: 14
 - unique_counts.txn_channel_code: 5
 - unique_counts.payment_rail_code: 14
 - unique_counts.txn_type_code: 8

Overview - Metrics

- unique_counts.merchant_category_code: 10
- unique_counts.device_type_code: 4
- unique_counts.is_suspicious: 2

Overview - Explanation

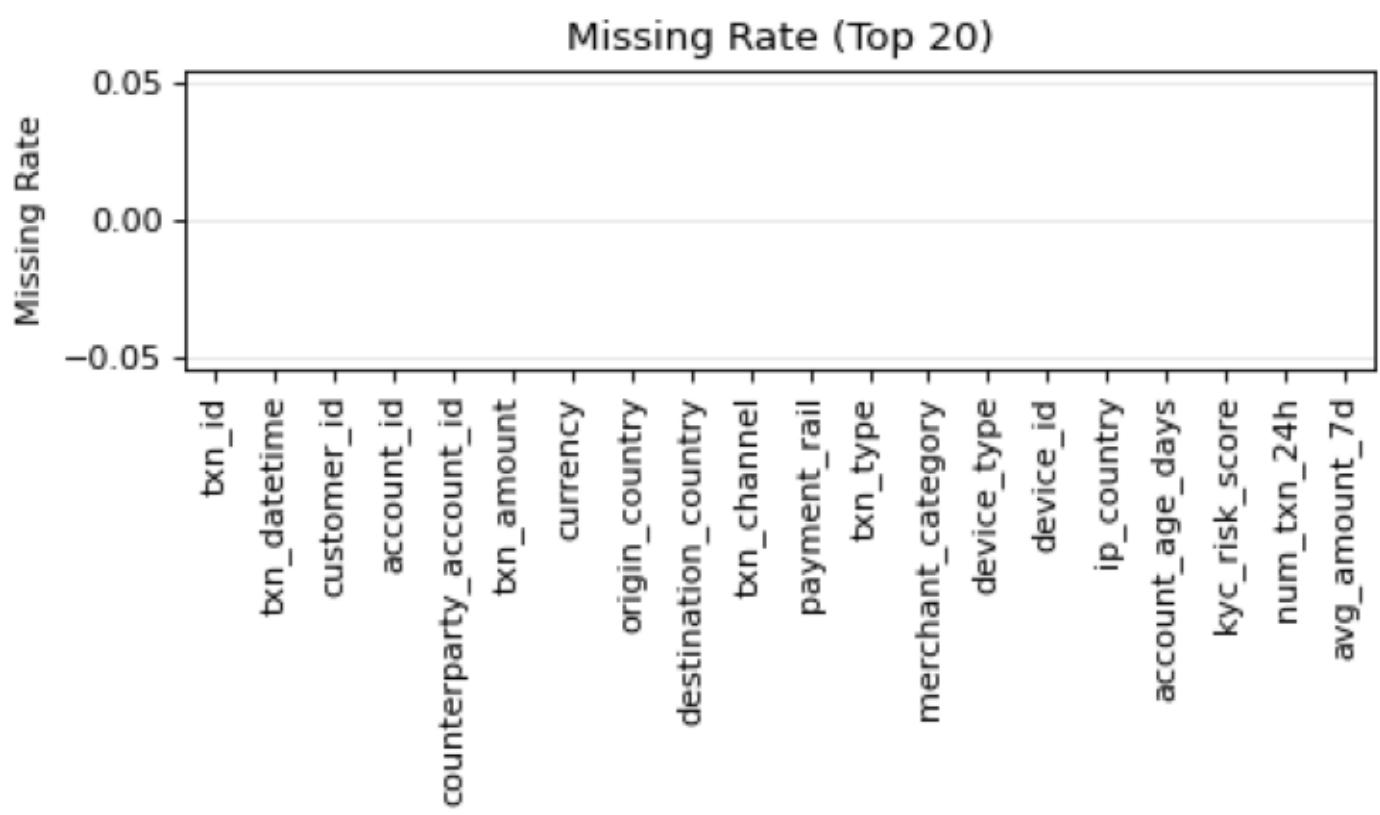
- Dataset has 10000 rows and 34 columns.
- Rows limited to first 10000 of 200000 for analysis.
- Duplicate row ratio is 0.00%.
- Numeric columns: ['txn_amount', 'account_age_days', 'kyc_risk_score', 'num_txn_24h', 'avg_amount_7d', 'is_pep', 'sanctions_match', 'is_cross_border', 'is_fintech_rail', 'origin_country_code', 'destination_country_code', 'ip_country_code', 'currency_code', 'txn_channel_code', 'payment_rail_code', 'txn_type_code', 'merchant_category_code', 'device_type_code', 'is_suspicious'].
- Categorical columns: ['currency', 'origin_country', 'destination_country', 'txn_channel', 'payment_rail', 'txn_type', 'merchant_category', 'device_type', 'ip_country'].
- Target 'is_suspicious' distribution: {0: 9434, 1: 566}.

Missingness - Metrics

- missing_rate.txn_id: 0.0
- missing_rate.txn_datetime: 0.0
- missing_rate.customer_id: 0.0
- missing_rate.account_id: 0.0
- missing_rate.counterparty_account_id: 0.0
- missing_rate.txn_amount: 0.0
- missing_rate.currency: 0.0
- missing_rate.origin_country: 0.0
- missing_rate.destination_country: 0.0
- missing_rate.txn_channel: 0.0
- missing_rate.payment_rail: 0.0
- missing_rate.txn_type: 0.0
- missing_rate.merchant_category: 0.0
- missing_rate.device_type: 0.0
- missing_rate.device_id: 0.0
- missing_rate.ip_country: 0.0
- missing_rate.account_age_days: 0.0
- missing_rate.kyc_risk_score: 0.0
- missing_rate.num_txn_24h: 0.0
- missing_rate.avg_amount_7d: 0.0
- missing_rate.is_pep: 0.0
- missing_rate.sanctions_match: 0.0
- missing_rate.is_cross_border: 0.0
- missing_rate.is_fintech_rail: 0.0
- missing_rate.origin_country_code: 0.0
- missing_rate.destination_country_code: 0.0
- missing_rate.ip_country_code: 0.0
- missing_rate.currency_code: 0.0
- missing_rate.txn_channel_code: 0.0
- missing_rate.payment_rail_code: 0.0
- missing_rate.txn_type_code: 0.0
- missing_rate.merchant_category_code: 0.0
- missing_rate.device_type_code: 0.0
- missing_rate.is_suspicious: 0.0

Missingness - Explanation

- Highest missing rate is 0.00% in column 'txn_id'.



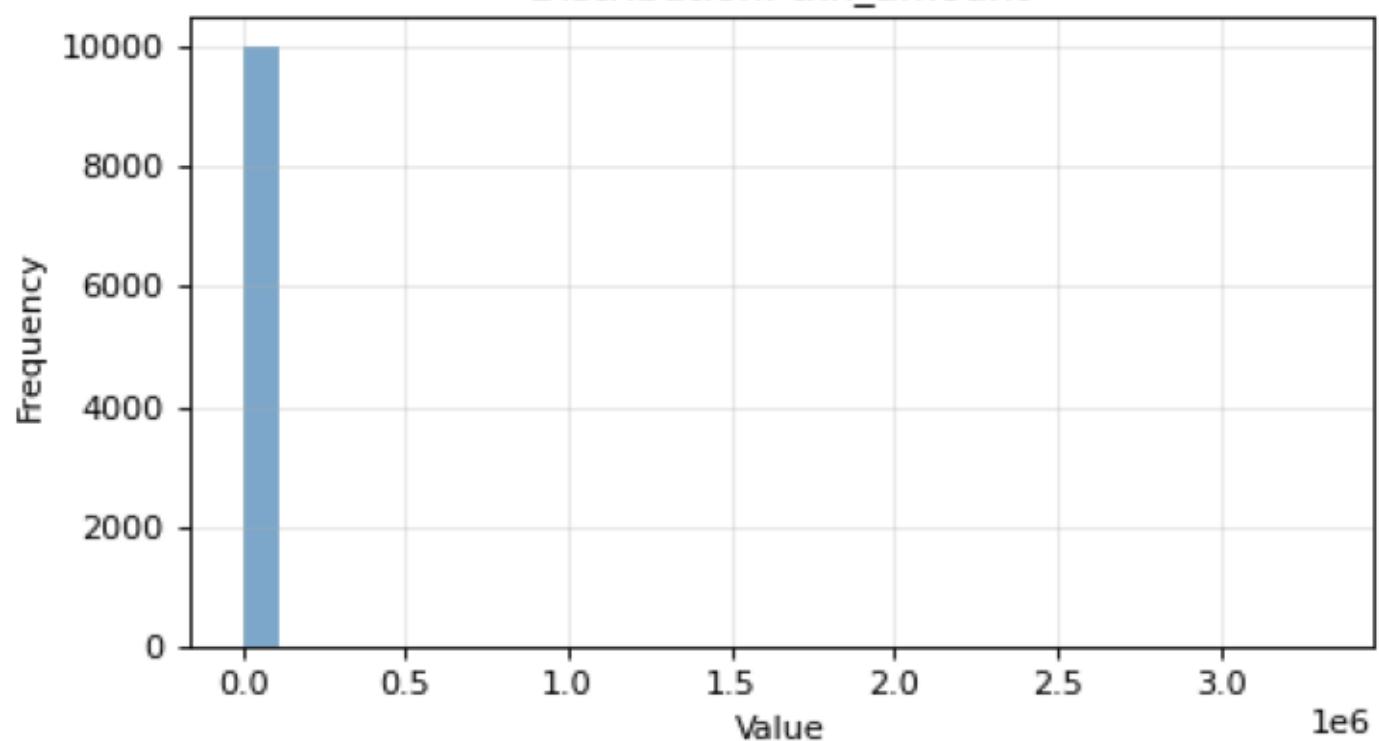
Numeric - Metrics

- numeric_stats.txn_amount.count: 10000.0
- numeric_stats.txn_amount.mean: 1376.221343
- numeric_stats.txn_amount.std: 38100.346482
- numeric_stats.txn_amount.min: 0.25
- numeric_stats.txn_amount.25%: 39.7675
- numeric_stats.txn_amount.50%: 101.7
- numeric_stats.txn_amount.75%: 326.2725
- numeric_stats.txn_amount.max: 3303207.4
- numeric_stats.account_age_days.count: 10000.0
- numeric_stats.account_age_days.mean: 1828.0079
- numeric_stats.account_age_days.std: 1043.588943
- numeric_stats.account_age_days.min: 1.0
- numeric_stats.account_age_days.25%: 925.0
- numeric_stats.account_age_days.50%: 1841.0
- numeric_stats.account_age_days.75%: 2731.0
- numeric_stats.account_age_days.max: 3649.0
- numeric_stats.avg_amount_7d.count: 10000.0
- numeric_stats.avg_amount_7d.mean: 45.83933
- numeric_stats.avg_amount_7d.std: 45.298215
- numeric_stats.avg_amount_7d.min: 1.28
- numeric_stats.avg_amount_7d.25%: 19.3
- numeric_stats.avg_amount_7d.50%: 32.52
- numeric_stats.avg_amount_7d.75%: 55.77
- numeric_stats.avg_amount_7d.max: 962.89
- numeric_stats.kyc_risk_score.count: 10000.0
- numeric_stats.kyc_risk_score.mean: 36.333385
- numeric_stats.kyc_risk_score.std: 16.628474
- numeric_stats.kyc_risk_score.min: 0.0
- numeric_stats.kyc_risk_score.25%: 25.1975
- numeric_stats.kyc_risk_score.50%: 35.69
- numeric_stats.kyc_risk_score.75%: 46.24
- numeric_stats.kyc_risk_score.max: 100.0
- numeric_stats.num_txn_24h.count: 10000.0
- numeric_stats.num_txn_24h.mean: 3.2845
- numeric_stats.num_txn_24h.std: 7.820018
- numeric_stats.num_txn_24h.min: 0.0
- numeric_stats.num_txn_24h.25%: 1.0
- numeric_stats.num_txn_24h.50%: 2.0
- numeric_stats.num_txn_24h.75%: 3.0
- numeric_stats.num_txn_24h.max: 83.0

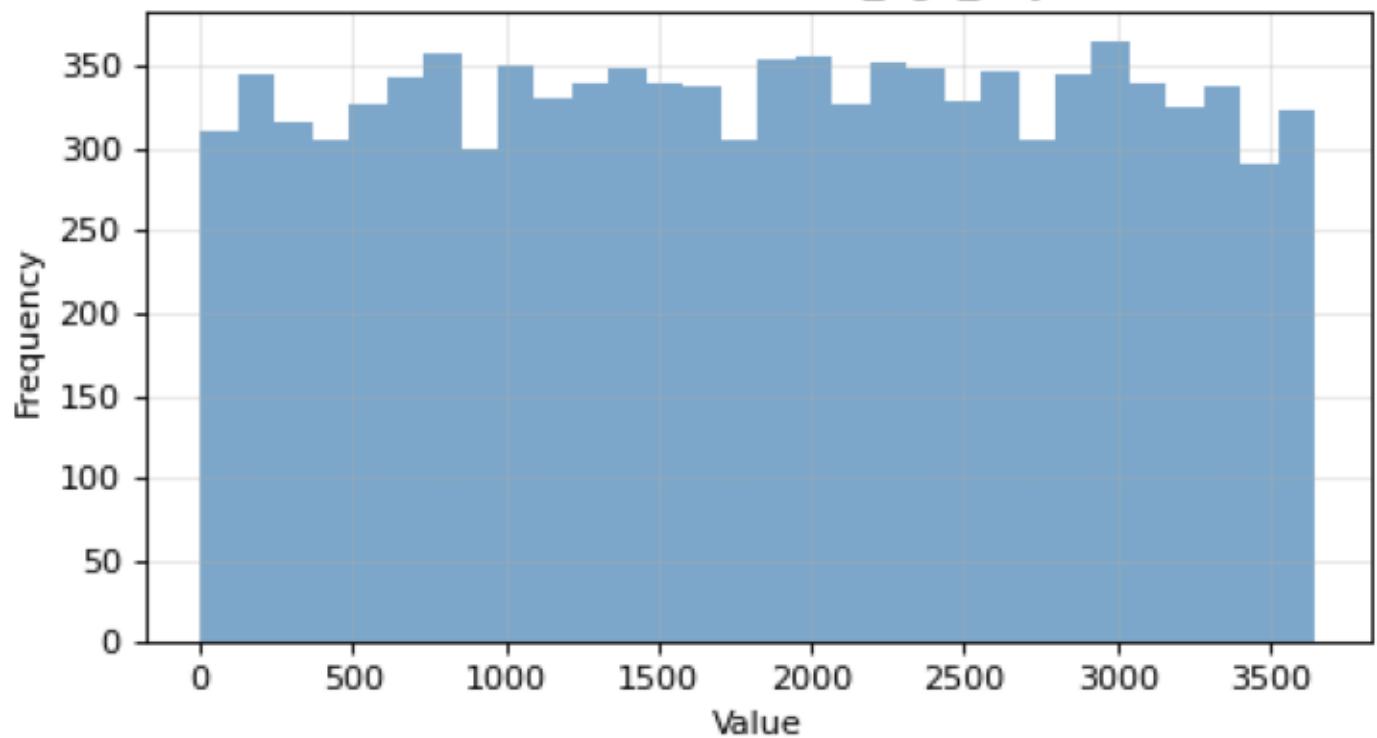
Numeric - Explanation

- Numeric columns analyzed (top 5 by variance): ['txn_amount', 'account_age_days', 'avg_amount_7d',
- 'kyc_risk_score', 'num_txn_24h'].

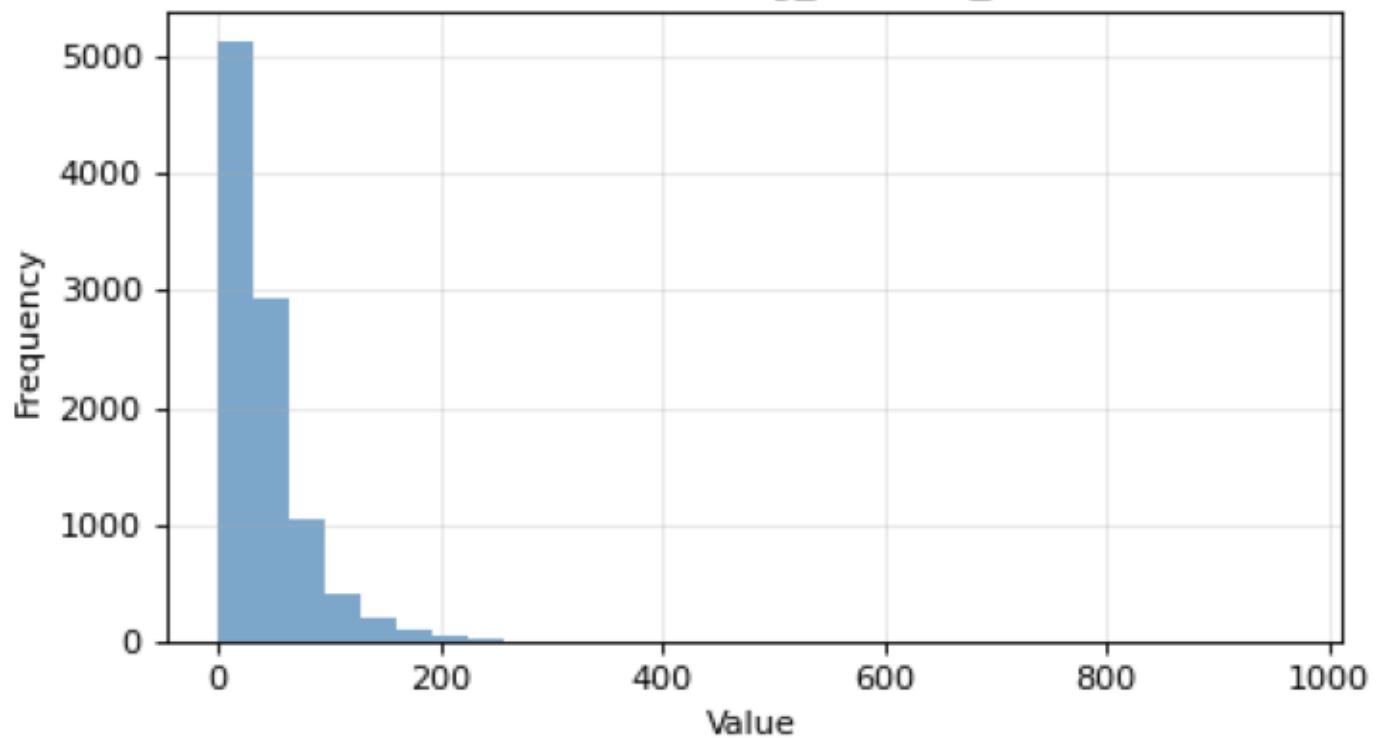
Distribution: `txn_amount`

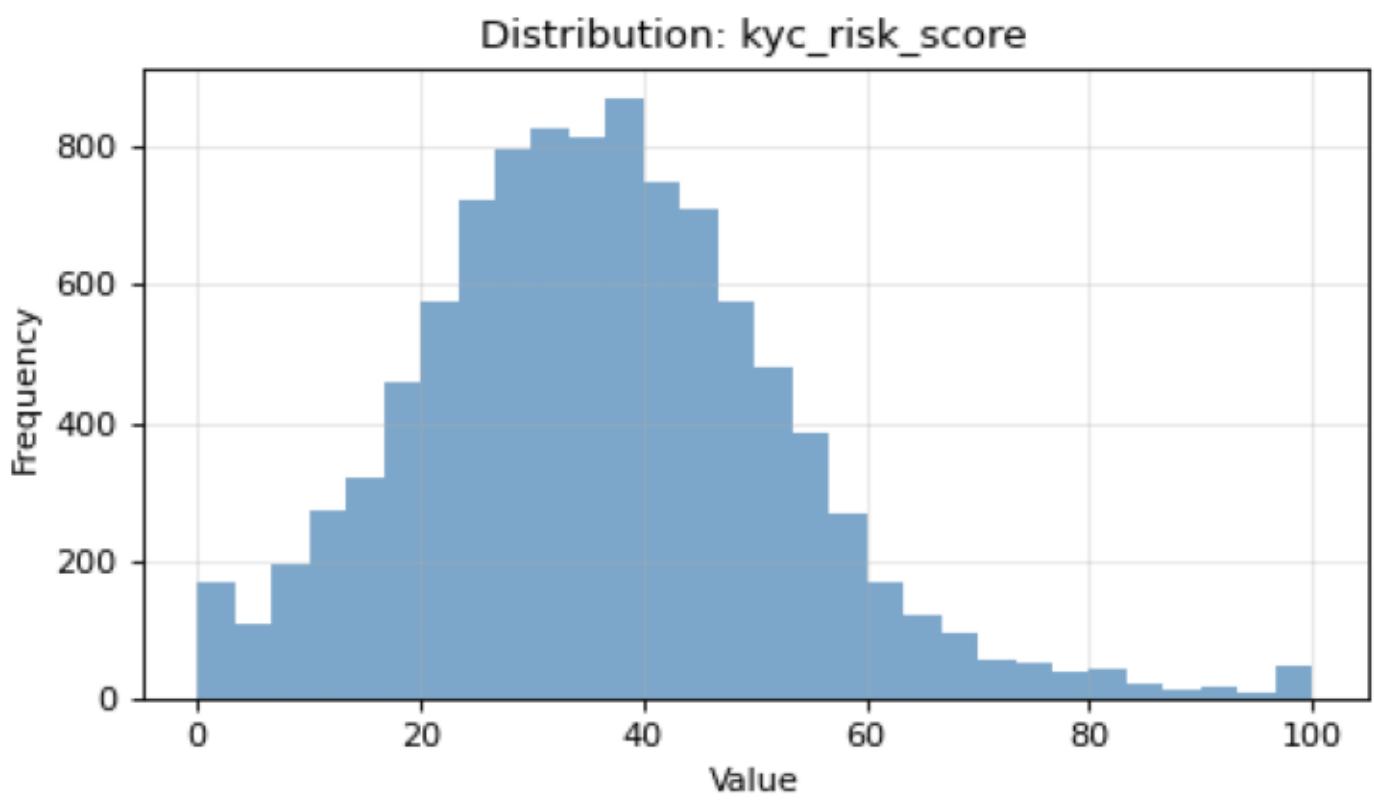


Distribution: account_age_days

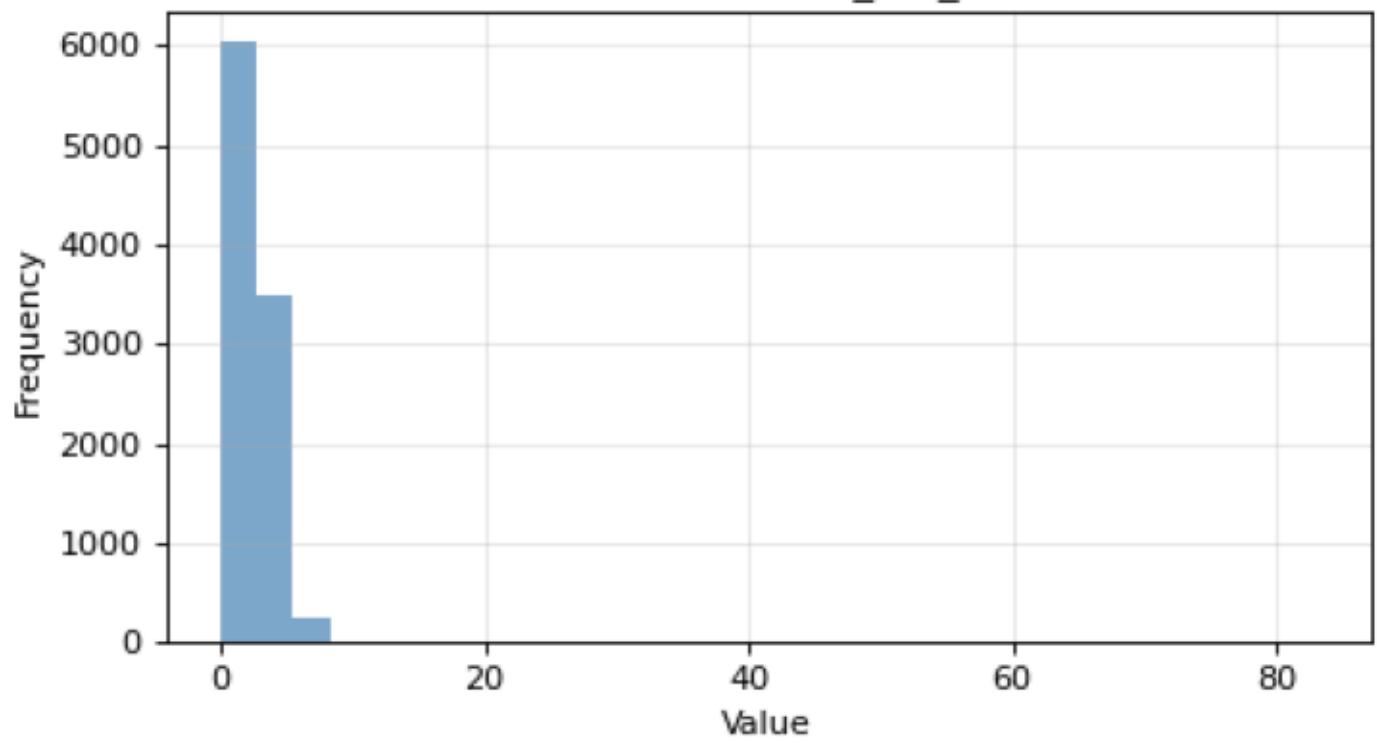


Distribution: avg_amount_7d





Distribution: num_txn_24h



Categorical - Metrics

- top_categories.txn_id.4e1a9822-0abb-438b-a848-c57900e521c5: 1
- top_categories.txn_id.f52241a2-cd41-4367-b2bb-40c92cab0c8: 1
- top_categories.txn_id.ce7bcf00-b8ce-4d14-a71b-c58a927ce4c0: 1
- top_categories.txn_id.0a4b48e7-5b31-4ff7-b279-6303d9415ce4: 1
- top_categories.txn_id.cd37d77a-99a8-447a-aebc-0ea43b8921e2: 1
- top_categories.txn_id.f196d2df-274a-47ac-abdf-f6e22b1289aa: 1
- top_categories.txn_id.8999582c-3d00-4055-a7a8-315b47c9b14a: 1
- top_categories.txn_id.c9f4e697-eb51-4828-bd4a-aa9126def013: 1
- top_categories.txn_id.ef9cf89a-2acd-4320-8ba2-13e98b1d56f9: 1
- top_categories.txn_id.5e8920a0-deb7-44c4-b4dd-e762eaf9422: 1
- top_categories.device_id.DEV_102034: 3
- top_categories.device_id.DEV_142530: 3
- top_categories.device_id.DEV_105243: 3
- top_categories.device_id.DEV_077448: 3
- top_categories.device_id.DEV_115986: 3
- top_categories.device_id.DEV_010495: 2
- top_categories.device_id.DEV_075734: 2
- top_categories.device_id.DEV_156525: 2
- top_categories.device_id.DEV_063318: 2
- top_categories.device_id.DEV_053168: 2
- top_categories.counterparty_account_id.CP_119314: 3
- top_categories.counterparty_account_id.CP_008418: 3
- top_categories.counterparty_account_id.CP_030639: 3
- top_categories.counterparty_account_id.CP_025554: 3
- top_categories.counterparty_account_id.CP_027101: 3
- top_categories.counterparty_account_id.CP_033181: 3
- top_categories.counterparty_account_id.CP_090031: 3
- top_categories.counterparty_account_id.CP_078965: 3
- top_categories.counterparty_account_id.CP_077466: 3
- top_categories.counterparty_account_id.CP_111645: 3
- top_categories.account_id.ACCT_053715: 3
- top_categories.account_id.ACCT_011321: 3
- top_categories.account_id.ACCT_044037: 3
- top_categories.account_id.ACCT_031017: 3
- top_categories.account_id.ACCT_052398: 3
- top_categories.account_id.ACCT_076934: 3
- top_categories.account_id.ACCT_076070: 3
- top_categories.account_id.ACCT_062282: 3
- top_categories.account_id.ACCT_038570: 3
- top_categories.account_id.ACCT_011947: 3
- top_categories.customer_id.CUST_012892: 4
- top_categories.customer_id.CUST_009760: 4
- top_categories.customer_id.CUST_030774: 4
- top_categories.customer_id.CUST_006169: 3
- top_categories.customer_id.CUST_011845: 3
- top_categories.customer_id.CUST_047805: 3

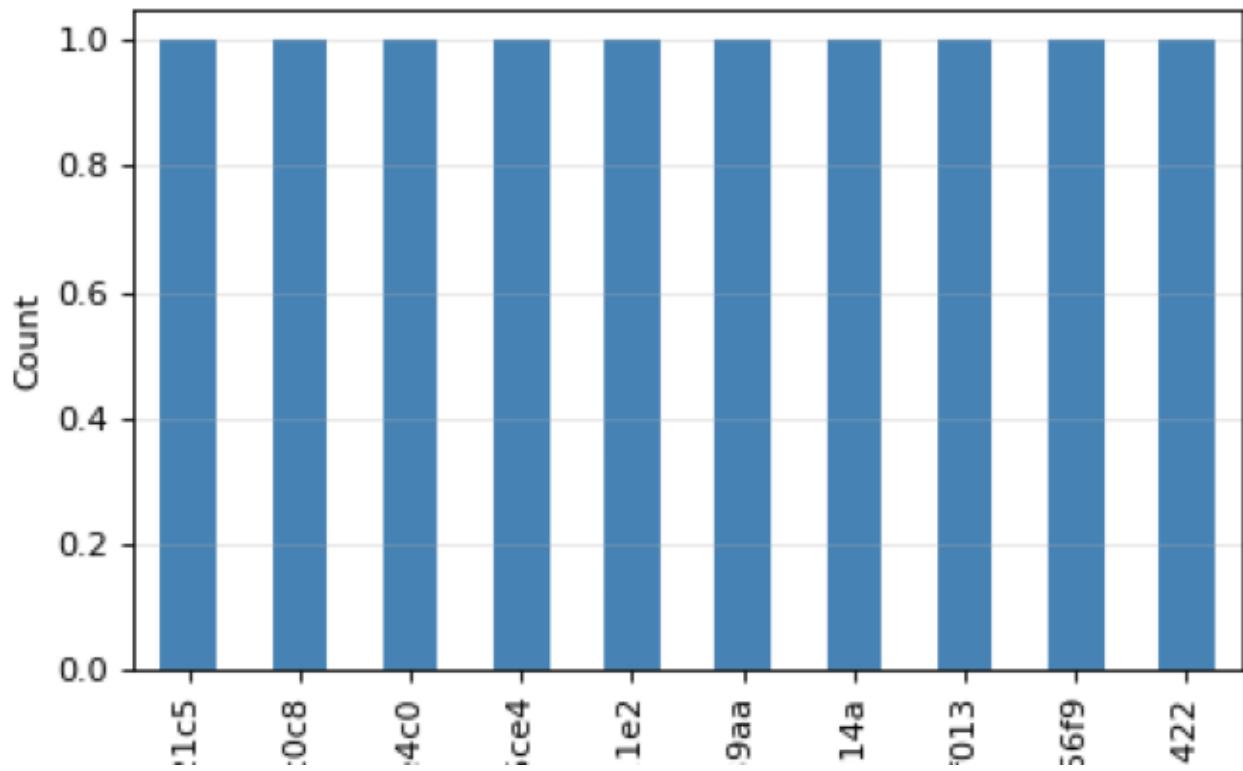
Categorical - Metrics

- top_categories.customer_id.CUST_018477: 3
- top_categories.customer_id.CUST_006697: 3
- top_categories.customer_id.CUST_034620: 3
- top_categories.customer_id.CUST_000258: 3

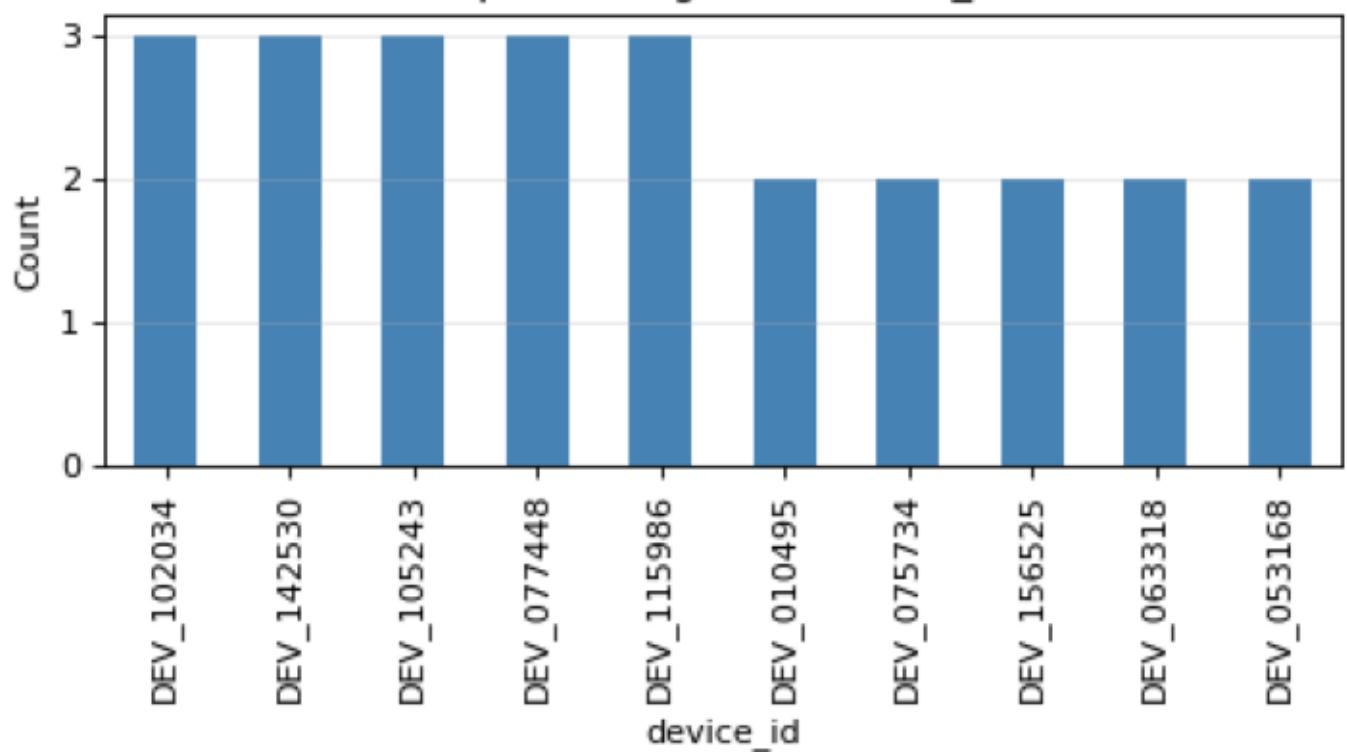
Categorical - Explanation

- Categorical columns analyzed (top 5 by unique count): ['txn_id', 'device_id', 'counterparty_account_id', 'account_id', 'customer_id'].

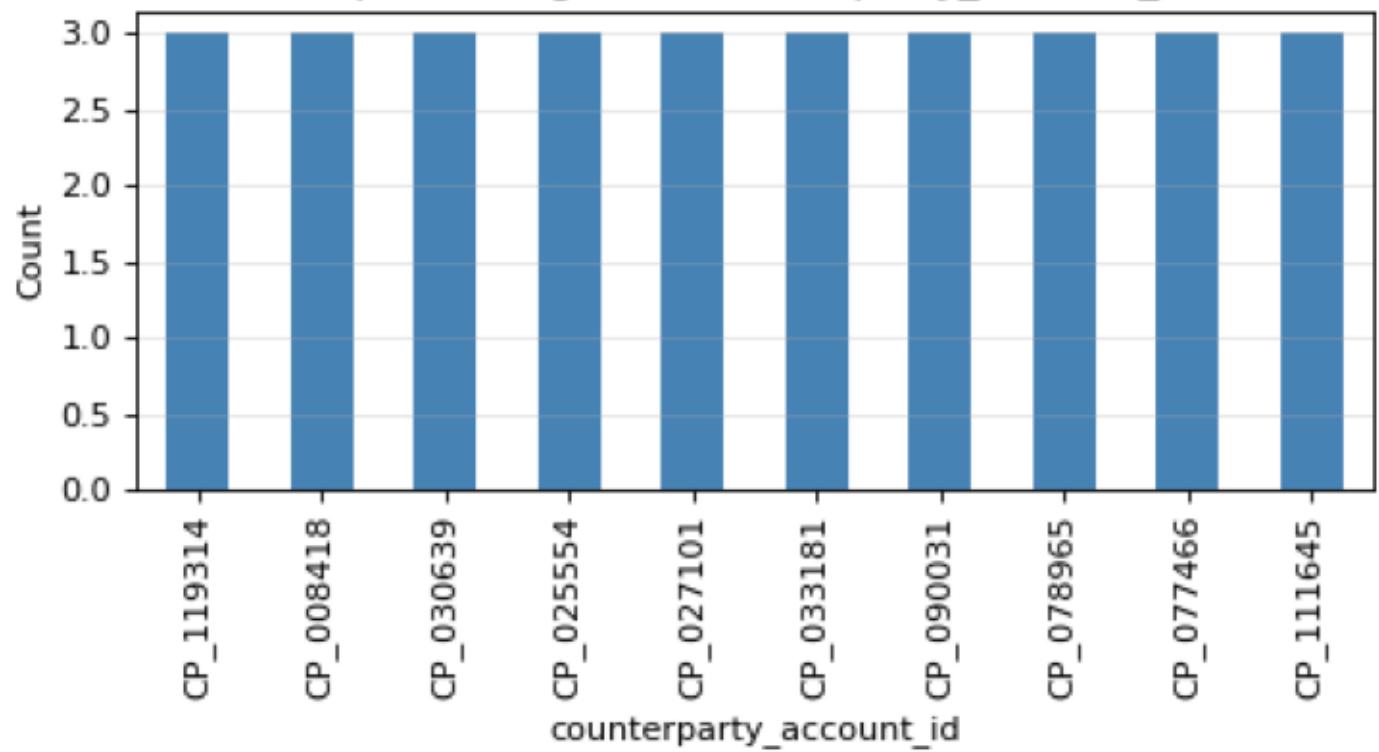
Top 10 Categories: txn_id



Top 10 Categories: device_id



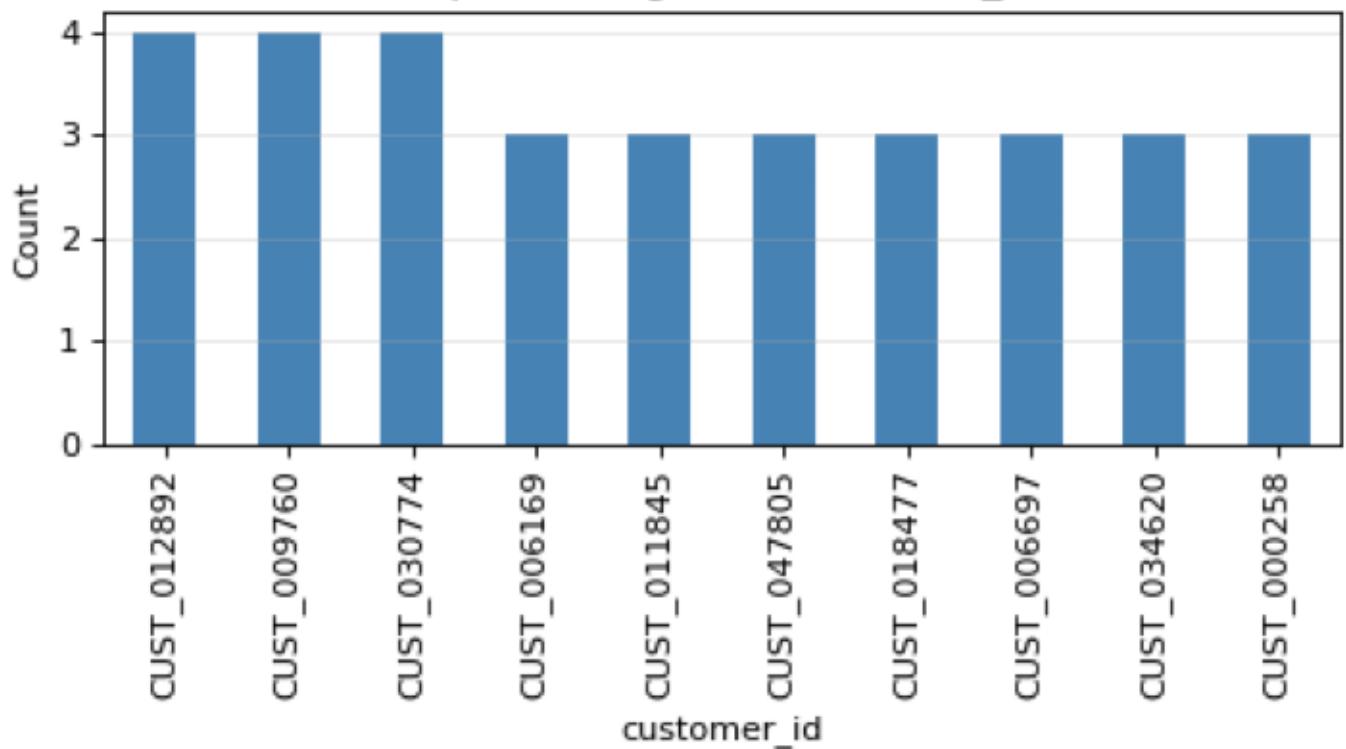
Top 10 Categories: counterparty_account_id



Top 10 Categories: account_id



Top 10 Categories: customer_id



Correlation - Metrics

- correlation.txn_amount.txn_amount: 1.0
- correlation.txn_amount.account_age_days: -0.0047
- correlation.txn_amount.kyc_risk_score: 0.061
- correlation.txn_amount.num_txn_24h: 0.1251
- correlation.txn_amount.avg_amount_7d: 0.0181
- correlation.txn_amount.is_pep: 0.0291
- correlation.txn_amount.sanctions_match: 0.0103
- correlation.txn_amount.is_cross_border: -0.0099
- correlation.txn_amount.is_fintech_rail: -0.0001
- correlation.txn_amount.origin_country_code: 0.0243
- correlation.txn_amount.destination_country_code: 0.022
- correlation.txn_amount.ip_country_code: -0.0066
- correlation.txn_amount.currency_code: 0.0223
- correlation.txn_amount.txn_channel_code: -0.0083
- correlation.txn_amount.payment_rail_code: 0.0001
- correlation.txn_amount.txn_type_code: 0.0196
- correlation.txn_amount.merchant_category_code: -0.0039
- correlation.txn_amount.device_type_code: -0.0073
- correlation.txn_amount.is_suspicious: 0.085
- correlation.account_age_days.txn_amount: -0.0047
- correlation.account_age_days.account_age_days: 1.0
- correlation.account_age_days.kyc_risk_score: 0.0008
- correlation.account_age_days.num_txn_24h: 0.0003
- correlation.account_age_days.avg_amount_7d: -0.0153
- correlation.account_age_days.is_pep: -0.0055
- correlation.account_age_days.sanctions_match: 0.0088
- correlation.account_age_days.is_cross_border: -0.0062
- correlation.account_age_days.is_fintech_rail: 0.014
- correlation.account_age_days.origin_country_code: 0.0056
- correlation.account_age_days.destination_country_code: -0.002
- correlation.account_age_days.ip_country_code: -0.0192
- correlation.account_age_days.currency_code: -0.0013
- correlation.account_age_days.txn_channel_code: 0.0091
- correlation.account_age_days.payment_rail_code: 0.0091
- correlation.account_age_days.txn_type_code: -0.0005
- correlation.account_age_days.merchant_category_code: -0.0103
- correlation.account_age_days.device_type_code: 0.0005
- correlation.account_age_days.is_suspicious: -0.0028
- correlation.kyc_risk_score.txn_amount: 0.061
- correlation.kyc_risk_score.account_age_days: 0.0008
- correlation.kyc_risk_score.kyc_risk_score: 1.0
- correlation.kyc_risk_score.num_txn_24h: 0.3092
- correlation.kyc_risk_score.avg_amount_7d: 0.0026
- correlation.kyc_risk_score.is_pep: 0.1997
- correlation.kyc_risk_score.sanctions_match: 0.17
- correlation.kyc_risk_score.is_cross_border: -0.0014

Correlation - Metrics

- correlation.kyc_risk_score.is_fintech_rail: 0.0653
- correlation.kyc_risk_score.origin_country_code: 0.0637
- correlation.kyc_risk_score.destination_country_code: 0.0481
- correlation.kyc_risk_score.ip_country_code: 0.0024
- correlation.kyc_risk_score.currency_code: 0.0196
- correlation.kyc_risk_score.txn_channel_code: 0.0234
- correlation.kyc_risk_score.payment_rail_code: 0.0659
- correlation.kyc_risk_score.txn_type_code: 0.0011
- correlation.kyc_risk_score.merchant_category_code: 0.0066
- correlation.kyc_risk_score.device_type_code: -0.0029
- correlation.kyc_risk_score.is_suspicious: 0.347
- correlation.num_txn_24h.txn_amount: 0.1251
- correlation.num_txn_24h.account_age_days: 0.0003
- correlation.num_txn_24h.kyc_risk_score: 0.3092
- correlation.num_txn_24h.num_txn_24h: 1.0
- correlation.num_txn_24h.avg_amount_7d: -0.0031
- correlation.num_txn_24h.is_pep: 0.3485
- correlation.num_txn_24h.sanctions_match: 0.2415
- correlation.num_txn_24h.is_cross_border: -0.0042
- correlation.num_txn_24h.is_fintech_rail: 0.096
- correlation.num_txn_24h.origin_country_code: 0.0865
- correlation.num_txn_24h.destination_country_code: 0.0922
- correlation.num_txn_24h.ip_country_code: -0.0035
- correlation.num_txn_24h.currency_code: 0.0162
- correlation.num_txn_24h.txn_channel_code: 0.0284
- correlation.num_txn_24h.payment_rail_code: 0.1025
- correlation.num_txn_24h.txn_type_code: 0.0032
- correlation.num_txn_24h.merchant_category_code: 0.0174
- correlation.num_txn_24h.device_type_code: -0.0075
- correlation.num_txn_24h.is_suspicious: 0.5432
- correlation.avg_amount_7d.txn_amount: 0.0181
- correlation.avg_amount_7d.account_age_days: -0.0153
- correlation.avg_amount_7d.kyc_risk_score: 0.0026
- correlation.avg_amount_7d.num_txn_24h: -0.0031
- correlation.avg_amount_7d.avg_amount_7d: 1.0
- correlation.avg_amount_7d.is_pep: -0.0031
- correlation.avg_amount_7d.sanctions_match: -0.0138
- correlation.avg_amount_7d.is_cross_border: 0.0037
- correlation.avg_amount_7d.is_fintech_rail: 0.0093
- correlation.avg_amount_7d.origin_country_code: -0.0104
- correlation.avg_amount_7d.destination_country_code: 0.0111
- correlation.avg_amount_7d.ip_country_code: 0.0038
- correlation.avg_amount_7d.currency_code: 0.0134
- correlation.avg_amount_7d.txn_channel_code: 0.0141
- correlation.avg_amount_7d.payment_rail_code: 0.0105
- correlation.avg_amount_7d.txn_type_code: 0.0063

Correlation - Metrics

- correlation.avg_amount_7d.merchant_category_code: 0.0014
- correlation.avg_amount_7d.device_type_code: 0.0082
- correlation.avg_amount_7d.is_suspicious: -0.0038
- correlation.is_pep.txn_amount: 0.0291
- correlation.is_pep.account_age_days: -0.0055
- correlation.is_pep.kyc_risk_score: 0.1997
- correlation.is_pep.num_txn_24h: 0.3485
- correlation.is_pep.avg_amount_7d: -0.0031
- correlation.is_pep.is_pep: 1.0
- correlation.is_pep.sanctions_match: 0.1893
- correlation.is_pep.is_cross_border: 0.0006
- correlation.is_pep.is_fintech_rail: 0.0772
- correlation.is_pep.origin_country_code: 0.0569
- correlation.is_pep.destination_country_code: 0.0497
- correlation.is_pep.ip_country_code: 0.0076
- correlation.is_pep.currency_code: -0.0058
- correlation.is_pep.txn_channel_code: 0.0344
- correlation.is_pep.payment_rail_code: 0.0682
- correlation.is_pep.txn_type_code: 0.0103
- correlation.is_pep.merchant_category_code: 0.008
- correlation.is_pep.device_type_code: 0.014
- correlation.is_pep.is_suspicious: 0.4036
- correlation.sanctions_match.txn_amount: 0.0103
- correlation.sanctions_match.account_age_days: 0.0088
- correlation.sanctions_match.kyc_risk_score: 0.17
- correlation.sanctions_match.num_txn_24h: 0.2415
- correlation.sanctions_match.avg_amount_7d: -0.0138
- correlation.sanctions_match.is_pep: 0.1893
- correlation.sanctions_match.sanctions_match: 1.0
- correlation.sanctions_match.is_cross_border: -0.0008
- correlation.sanctions_match.is_fintech_rail: 0.0612
- correlation.sanctions_match.origin_country_code: 0.0377
- correlation.sanctions_match.destination_country_code: 0.0555
- correlation.sanctions_match.ip_country_code: 0.003
- correlation.sanctions_match.currency_code: 0.0078
- correlation.sanctions_match.txn_channel_code: 0.0216
- correlation.sanctions_match.payment_rail_code: 0.0682
- correlation.sanctions_match.txn_type_code: -0.0073
- correlation.sanctions_match.merchant_category_code: -0.0027
- correlation.sanctions_match.device_type_code: -0.0256
- correlation.sanctions_match.is_suspicious: 0.3118
- correlation.is_cross_border.txn_amount: -0.0099
- correlation.is_cross_border.account_age_days: -0.0062
- correlation.is_cross_border.kyc_risk_score: -0.0014
- correlation.is_cross_border.num_txn_24h: -0.0042
- correlation.is_cross_border.avg_amount_7d: 0.0037

Correlation - Metrics

- correlation.is_cross_border.is_pep: 0.0006
- correlation.is_cross_border.sanctions_match: -0.0008
- correlation.is_cross_border.is_cross_border: 1.0
- correlation.is_cross_border.is_fintech_rail: -0.0113
- correlation.is_cross_border.origin_country_code: 0.2201
- correlation.is_cross_border.destination_country_code: 0.2208
- correlation.is_cross_border.ip_country_code: -0.0001
- correlation.is_cross_border.currency_code: -0.2399
- correlation.is_cross_border.txn_channel_code: 0.0128
- correlation.is_cross_border.payment_rail_code: -0.0107
- correlation.is_cross_border.txn_type_code: 0.0097
- correlation.is_cross_border.merchant_category_code: -0.0082
- correlation.is_cross_border.device_type_code: -0.0099
- correlation.is_cross_border.is_suspicious: -0.0078
- correlation.is_fintech_rail.txn_amount: -0.0001
- correlation.is_fintech_rail.account_age_days: 0.014
- correlation.is_fintech_rail.kyc_risk_score: 0.0653
- correlation.is_fintech_rail.num_txn_24h: 0.096
- correlation.is_fintech_rail.avg_amount_7d: 0.0093
- correlation.is_fintech_rail.is_pep: 0.0772
- correlation.is_fintech_rail.sanctions_match: 0.0612
- correlation.is_fintech_rail.is_cross_border: -0.0113
- correlation.is_fintech_rail.is_fintech_rail: 1.0
- correlation.is_fintech_rail.origin_country_code: 0.0321
- correlation.is_fintech_rail.destination_country_code: 0.0166
- correlation.is_fintech_rail.ip_country_code: -0.0067
- correlation.is_fintech_rail.currency_code: -0.0067
- correlation.is_fintech_rail.txn_channel_code: 0.0216
- correlation.is_fintech_rail.payment_rail_code: 0.8657
- correlation.is_fintech_rail.txn_type_code: 0.0029
- correlation.is_fintech_rail.merchant_category_code: -0.0019
- correlation.is_fintech_rail.device_type_code: 0.0164
- correlation.is_fintech_rail.is_suspicious: 0.1175
- correlation.origin_country_code.txn_amount: 0.0243
- correlation.origin_country_code.account_age_days: 0.0056
- correlation.origin_country_code.kyc_risk_score: 0.0637
- correlation.origin_country_code.num_txn_24h: 0.0865
- correlation.origin_country_code.avg_amount_7d: -0.0104
- correlation.origin_country_code.is_pep: 0.0569
- correlation.origin_country_code.sanctions_match: 0.0377
- correlation.origin_country_code.is_cross_border: 0.2201
- correlation.origin_country_code.is_fintech_rail: 0.0321
- correlation.origin_country_code.origin_country_code: 1.0
- correlation.origin_country_code.destination_country_code: 0.0189
- correlation.origin_country_code.ip_country_code: 0.0066
- correlation.origin_country_code.currency_code: -0.3577

Correlation - Metrics

- correlation.origin_country_code.txn_channel_code: 0.0005
- correlation.origin_country_code.payment_rail_code: 0.0273
- correlation.origin_country_code.txn_type_code: 0.0089
- correlation.origin_country_code.merchant_category_code: -0.0089
- correlation.origin_country_code.device_type_code: -0.0058
- correlation.origin_country_code.is_suspicious: 0.1027
- correlation.destination_country_code.txn_amount: 0.022
- correlation.destination_country_code.account_age_days: -0.002
- correlation.destination_country_code.kyc_risk_score: 0.0481
- correlation.destination_country_code.num_txn_24h: 0.0922
- correlation.destination_country_code.avg_amount_7d: 0.0111
- correlation.destination_country_code.is_pep: 0.0497
- correlation.destination_country_code.sanctions_match: 0.0555
- correlation.destination_country_code.is_cross_border: 0.2208
- correlation.destination_country_code.is_fintech_rail: 0.0166
- correlation.destination_country_code.origin_country_code: 0.0189
- correlation.destination_country_code.destination_country_code: 1.0
- correlation.destination_country_code.ip_country_code: -0.0056
- correlation.destination_country_code.currency_code: 0.0023
- correlation.destination_country_code.txn_channel_code: 0.0097
- correlation.destination_country_code.payment_rail_code: 0.016
- correlation.destination_country_code.txn_type_code: 0.0067
- correlation.destination_country_code.merchant_category_code: -0.0104
- correlation.destination_country_code.device_type_code: -0.0164
- correlation.destination_country_code.is_suspicious: 0.1092
- correlation.ip_country_code.txn_amount: -0.0066
- correlation.ip_country_code.account_age_days: -0.0192
- correlation.ip_country_code.kyc_risk_score: 0.0024
- correlation.ip_country_code.num_txn_24h: -0.0035
- correlation.ip_country_code.avg_amount_7d: 0.0038
- correlation.ip_country_code.is_pep: 0.0076
- correlation.ip_country_code.sanctions_match: 0.003
- correlation.ip_country_code.is_cross_border: -0.0001
- correlation.ip_country_code.is_fintech_rail: -0.0067
- correlation.ip_country_code.origin_country_code: 0.0066
- correlation.ip_country_code.destination_country_code: -0.0056
- correlation.ip_country_code.ip_country_code: 1.0
- correlation.ip_country_code.currency_code: 0.0009
- correlation.ip_country_code.txn_channel_code: -0.0156
- correlation.ip_country_code.payment_rail_code: -0.0124
- correlation.ip_country_code.txn_type_code: -0.0048
- correlation.ip_country_code.merchant_category_code: -0.0049
- correlation.ip_country_code.device_type_code: -0.0118
- correlation.ip_country_code.is_suspicious: 0.0009
- correlation.currency_code.txn_amount: 0.0223
- correlation.currency_code.account_age_days: -0.0013

Correlation - Metrics

- correlation.currency_code.kyc_risk_score: 0.0196
- correlation.currency_code.num_txn_24h: 0.0162
- correlation.currency_code.avg_amount_7d: 0.0134
- correlation.currency_code.is_pep: -0.0058
- correlation.currency_code.sanctions_match: 0.0078
- correlation.currency_code.is_cross_border: -0.2399
- correlation.currency_code.is_fintech_rail: -0.0067
- correlation.currency_code.origin_country_code: -0.3577
- correlation.currency_code.destination_country_code: 0.0023
- correlation.currency_code.ip_country_code: 0.0009
- correlation.currency_code.currency_code: 1.0
- correlation.currency_code.txn_channel_code: -0.0069
- correlation.currency_code.payment_rail_code: -0.0004
- correlation.currency_code.txn_type_code: 0.0009
- correlation.currency_code.merchant_category_code: 0.0001
- correlation.currency_code.device_type_code: 0.0112
- correlation.currency_code.is_suspicious: -0.005
- correlation.txn_channel_code.txn_amount: -0.0083
- correlation.txn_channel_code.account_age_days: 0.0091
- correlation.txn_channel_code.kyc_risk_score: 0.0234
- correlation.txn_channel_code.num_txn_24h: 0.0284
- correlation.txn_channel_code.avg_amount_7d: 0.0141
- correlation.txn_channel_code.is_pep: 0.0344
- correlation.txn_channel_code.sanctions_match: 0.0216
- correlation.txn_channel_code.is_cross_border: 0.0128
- correlation.txn_channel_code.is_fintech_rail: 0.0216
- correlation.txn_channel_code.origin_country_code: 0.0005
- correlation.txn_channel_code.destination_country_code: 0.0097
- correlation.txn_channel_code.ip_country_code: -0.0156
- correlation.txn_channel_code.currency_code: -0.0069
- correlation.txn_channel_code.txn_channel_code: 1.0
- correlation.txn_channel_code.payment_rail_code: 0.0138
- correlation.txn_channel_code.txn_type_code: -0.0044
- correlation.txn_channel_code.merchant_category_code: -0.0019
- correlation.txn_channel_code.device_type_code: -0.0014
- correlation.txn_channel_code.is_suspicious: 0.0463
- correlation.payment_rail_code.txn_amount: 0.0001
- correlation.payment_rail_code.account_age_days: 0.0091
- correlation.payment_rail_code.kyc_risk_score: 0.0659
- correlation.payment_rail_code.num_txn_24h: 0.1025
- correlation.payment_rail_code.avg_amount_7d: 0.0105
- correlation.payment_rail_code.is_pep: 0.0682
- correlation.payment_rail_code.sanctions_match: 0.0682
- correlation.payment_rail_code.is_cross_border: -0.0107
- correlation.payment_rail_code.is_fintech_rail: 0.8657
- correlation.payment_rail_code.origin_country_code: 0.0273

Correlation - Metrics

- correlation.payment_rail_code.destination_country_code: 0.016
- correlation.payment_rail_code.ip_country_code: -0.0124
- correlation.payment_rail_code.currency_code: -0.0004
- correlation.payment_rail_code.txn_channel_code: 0.0138
- correlation.payment_rail_code.payment_rail_code: 1.0
- correlation.payment_rail_code.txn_type_code: 0.0078
- correlation.payment_rail_code.merchant_category_code: 0.0052
- correlation.payment_rail_code.device_type_code: 0.0023
- correlation.payment_rail_code.is_suspicious: 0.1146
- correlation.txn_type_code.txn_amount: 0.0196
- correlation.txn_type_code.account_age_days: -0.0005
- correlation.txn_type_code.kyc_risk_score: 0.0011
- correlation.txn_type_code.num_txn_24h: 0.0032
- correlation.txn_type_code.avg_amount_7d: 0.0063
- correlation.txn_type_code.is_pep: 0.0103
- correlation.txn_type_code.sanctions_match: -0.0073
- correlation.txn_type_code.is_cross_border: 0.0097
- correlation.txn_type_code.is_fintech_rail: 0.0029
- correlation.txn_type_code.origin_country_code: 0.0089
- correlation.txn_type_code.destination_country_code: 0.0067
- correlation.txn_type_code.ip_country_code: -0.0048
- correlation.txn_type_code.currency_code: 0.0009
- correlation.txn_type_code.txn_channel_code: -0.0044
- correlation.txn_type_code.payment_rail_code: 0.0078
- correlation.txn_type_code.txn_type_code: 1.0
- correlation.txn_type_code.merchant_category_code: 0.0006
- correlation.txn_type_code.device_type_code: -0.0003
- correlation.txn_type_code.is_suspicious: 0.0126
- correlation.merchant_category_code.txn_amount: -0.0039
- correlation.merchant_category_code.account_age_days: -0.0103
- correlation.merchant_category_code.kyc_risk_score: 0.0066
- correlation.merchant_category_code.num_txn_24h: 0.0174
- correlation.merchant_category_code.avg_amount_7d: 0.0014
- correlation.merchant_category_code.is_pep: 0.008
- correlation.merchant_category_code.sanctions_match: -0.0027
- correlation.merchant_category_code.is_cross_border: -0.0082
- correlation.merchant_category_code.is_fintech_rail: -0.0019
- correlation.merchant_category_code.origin_country_code: -0.0089
- correlation.merchant_category_code.destination_country_code: -0.0104
- correlation.merchant_category_code.ip_country_code: -0.0049
- correlation.merchant_category_code.currency_code: 0.0001
- correlation.merchant_category_code.txn_channel_code: -0.0019
- correlation.merchant_category_code.payment_rail_code: 0.0052
- correlation.merchant_category_code.txn_type_code: 0.0006
- correlation.merchant_category_code.merchant_category_code: 1.0
- correlation.merchant_category_code.device_type_code: -0.0023

Correlation - Metrics

- correlation.merchant_category_code.is_suspicious: 0.0137
- correlation.device_type_code.txn_amount: -0.0073
- correlation.device_type_code.account_age_days: 0.0005
- correlation.device_type_code.kyc_risk_score: -0.0029
- correlation.device_type_code.num_txn_24h: -0.0075
- correlation.device_type_code.avg_amount_7d: 0.0082
- correlation.device_type_code.is_pep: 0.014
- correlation.device_type_code.sanctions_match: -0.0256
- correlation.device_type_code.is_cross_border: -0.0099
- correlation.device_type_code.is_fintech_rail: 0.0164
- correlation.device_type_code.origin_country_code: -0.0058
- correlation.device_type_code.destination_country_code: -0.0164
- correlation.device_type_code.ip_country_code: -0.0118
- correlation.device_type_code.currency_code: 0.0112
- correlation.device_type_code.txn_channel_code: -0.0014
- correlation.device_type_code.payment_rail_code: 0.0023
- correlation.device_type_code.txn_type_code: -0.0003
- correlation.device_type_code.merchant_category_code: -0.0023
- correlation.device_type_code.device_type_code: 1.0
- correlation.device_type_code.is_suspicious: -0.0006
- correlation.is_suspicious.txn_amount: 0.085
- correlation.is_suspicious.account_age_days: -0.0028
- correlation.is_suspicious.kyc_risk_score: 0.347
- correlation.is_suspicious.num_txn_24h: 0.5432
- correlation.is_suspicious.avg_amount_7d: -0.0038
- correlation.is_suspicious.is_pep: 0.4036
- correlation.is_suspicious.sanctions_match: 0.3118
- correlation.is_suspicious.is_cross_border: -0.0078
- correlation.is_suspicious.is_fintech_rail: 0.1175
- correlation.is_suspicious.origin_country_code: 0.1027
- correlation.is_suspicious.destination_country_code: 0.1092
- correlation.is_suspicious.ip_country_code: 0.0009
- correlation.is_suspicious.currency_code: -0.005
- correlation.is_suspicious.txn_channel_code: 0.0463
- correlation.is_suspicious.payment_rail_code: 0.1146
- correlation.is_suspicious.txn_type_code: 0.0126
- correlation.is_suspicious.merchant_category_code: 0.0137
- correlation.is_suspicious.device_type_code: -0.0006
- correlation.is_suspicious.is_suspicious: 1.0
- target_correlation.is_suspicious: 1.0
- target_correlation.num_txn_24h: 0.5432
- target_correlation.is_pep: 0.4036
- target_correlation.kyc_risk_score: 0.347
- target_correlation.sanctions_match: 0.3118
- target_correlation.is_fintech_rail: 0.1175
- target_correlation.payment_rail_code: 0.1146

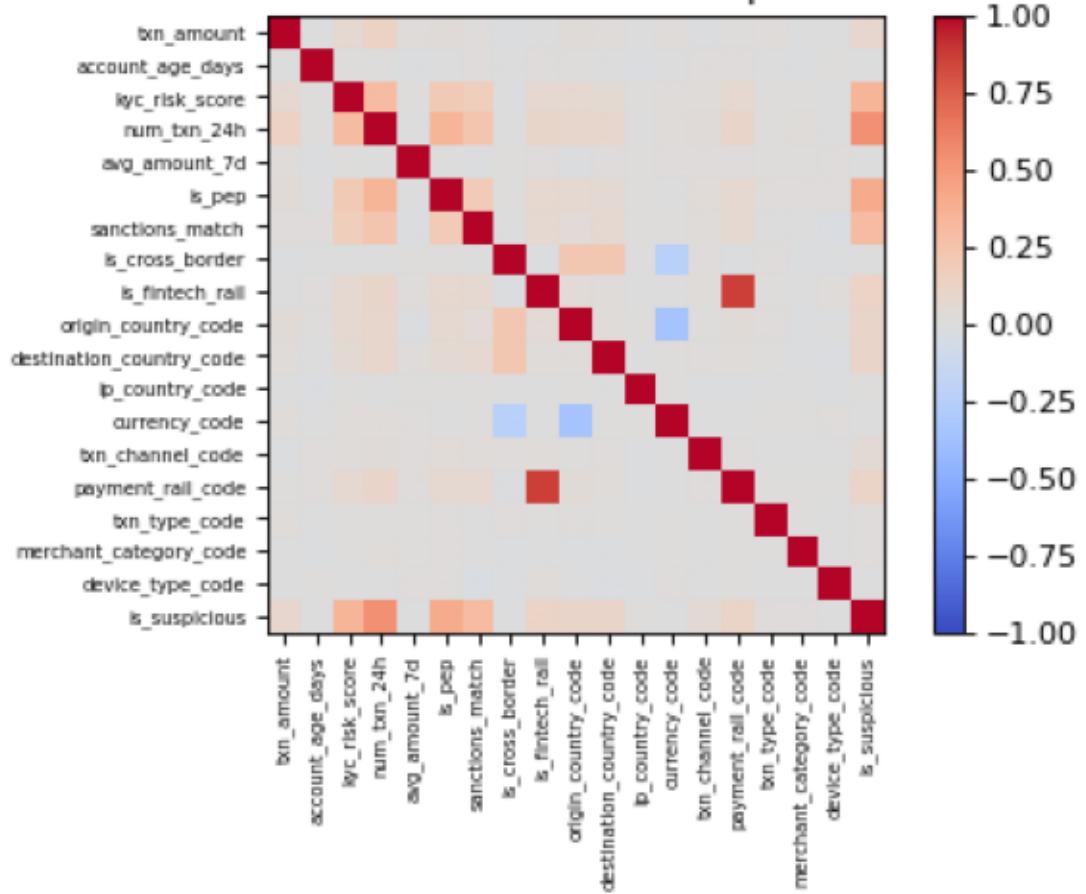
Correlation - Metrics

- target_correlation.destination_country_code: 0.1092
- target_correlation.origin_country_code: 0.1027
- target_correlation.txn_amount: 0.085
- target_correlation.txn_channel_code: 0.0463
- target_correlation.merchant_category_code: 0.0137
- target_correlation.txn_type_code: 0.0126
- target_correlation.ip_country_code: 0.0009
- target_correlation.device_type_code: -0.0006
- target_correlation.account_age_days: -0.0028
- target_correlation.avg_amount_7d: -0.0038
- target_correlation.currency_code: -0.005
- target_correlation.is_cross_border: -0.0078

Correlation - Explanation

- Correlation heatmap shows linear relationships among numeric features.
- Top correlated features with target 'is_suspicious': ['is_suspicious', 'num_txn_24h', 'is_pep', 'kyc_risk_score', 'sanctions_match'].

Correlation Heatmap



Outliers - Metrics

- outlier_ratio.txn_amount: 0.1313
- outlier_ratio.account_age_days: 0.0
- outlier_ratio.kyc_risk_score: 0.0189
- outlier_ratio.num_txn_24h: 0.03
- outlier_ratio.avg_amount_7d: 0.068
- outlier_ratio.is_pep: 0.0
- outlier_ratio.sanctions_match: 0.0
- outlier_ratio.is_cross_border: 0.0
- outlier_ratio.is_fintech_rail: 0.0
- outlier_ratio.origin_country_code: 0.0
- outlier_ratio.destination_country_code: 0.0
- outlier_ratio.ip_country_code: 0.0
- outlier_ratio.currency_code: 0.0
- outlier_ratio.txn_channel_code: 0.0
- outlier_ratio.payment_rail_code: 0.0
- outlier_ratio.txn_type_code: 0.0
- outlier_ratio.merchant_category_code: 0.0
- outlier_ratio.device_type_code: 0.0
- outlier_ratio.is_suspicious: 0.0

Outliers - Explanation

- Top outlier ratios: [('txn_amount', 0.1313), ('avg_amount_7d', 0.068), ('num_txn_24h', 0.03),
- ('kyc_risk_score', 0.0189), ('account_age_days', 0.0), ('is_pep', 0.0), ('sanctions_match', 0.0),
- ('is_cross_border', 0.0), ('is_fintech_rail', 0.0), ('origin_country_code', 0.0)].

