

Bank Account Fraud Detection through Machine Learning

By

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Business Problem	Analytics Problem
<p data-bbox="236 915 1596 1099">How can we detect fraudulent activities in online transactions which leads to financial losses and loss of customer trust?</p>	<p data-bbox="1702 915 3128 1099">How can we analyze and identify potentially fraudulent transactions leveraging transaction data to learn patterns between legitimate and fraudulent behavior?</p>

Data Profile

The project will center on the existing dataset from Kaggle. It contains the following variables:

Base

fraud_bool	income	name_email_similarity	prev_address_months_count	current_address_months_count	customer_age	days_since_request	intended_balcon_amount	payment_type	zip_count_4w	velocity_6h	velocity_24h	velocity_4w	bank_branch_count_8w	date_of_birth_distinct_emails_4w	employment_status
0	0.3	0.986506310633034	-1	25	40	0.0067353870811739	102.45371092469500	AA	1059	13096.035018400900	7850.955007125410	6742.080561007600	5	5	CB
0	0.8	0.6174260062650060	-1	89	20	0.010095097878573	-0.8495509687507290	AD	1658	9223.283430930420	5745.251480643790	5941.6648588359900	3	18	CA
0	0.8	0.9967070206409230	9	14	40	0.0123163495250501	-1.4903855214855000	AB	1095	4471.472148765560	5471.988958014070	5992.555113248600	15	11	CA

Base-1

credit_risk_score	email_is_free	housing_status	phone_home_valid	phone_mobile_valid	bank_months_count	has_other_cards	proposed_credit_limit	foreign_request	source	session_length_in_minutes	device_os	keep_alive_session	device_distinct_emails_8w	device_fraud_count	month
163	1	BC	0	1	9	0	1500.0	0	INTERNET	16.224843433978100	linux	1	1	0	0
154	1	BC	1	1	2	0	1500.0	0	INTERNET	3.36385371062431	other	1	1	0	0

Proposed Solution

These machine learning techniques will be implemented to identify fraudulent transactions:

- Logistic Regression
- Decision Trees
- Support Vector Machines

Members	Project roles
Charles Kevin Bandala	Data Engineer
Ace Bryan Campos	Data Scientist
Maebeth Faye Espina	Business / Data Analyst