Data + Technology
=
Great UX + Accurate risk

Michal Kročil
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**Purpose
of Twisto**

To **challenge** the status quo of everyday finance
via exceptional **customer experience**
by being at the forefront
in delivering cutting edge **technology**.

01
Understanding the environment

Fraudulent / Irresponsible / Distressed

Implications

02
Mitigation of threats

Data sources and processing

Modelling / Technology

Non-scoring tools

01
Understanding the environment

Everything moves fast.

Borders are blurred.

Reasons for customer ending in default

50% of defaulters know from the very beginning, they are not going to play by the rules

Fraud

40% of defaulters do not take the responsibilities and consequence seriously

Irresponsible

10% of defaulters have the intention to repay back but do not have the means or attention to do so

Distressed

Distribution highly dependent on: **ticket size, duration, purchased product, standard of identification**

Fraudsters

- actively trying to find any weak spots

- different level of sophistication

- different level of „investment"

The critical thing is to **identify** them and **prevent** them from completing the transaction. Once it is completed, very thin chances of recovering any money.

Mistakes must not be repeated!
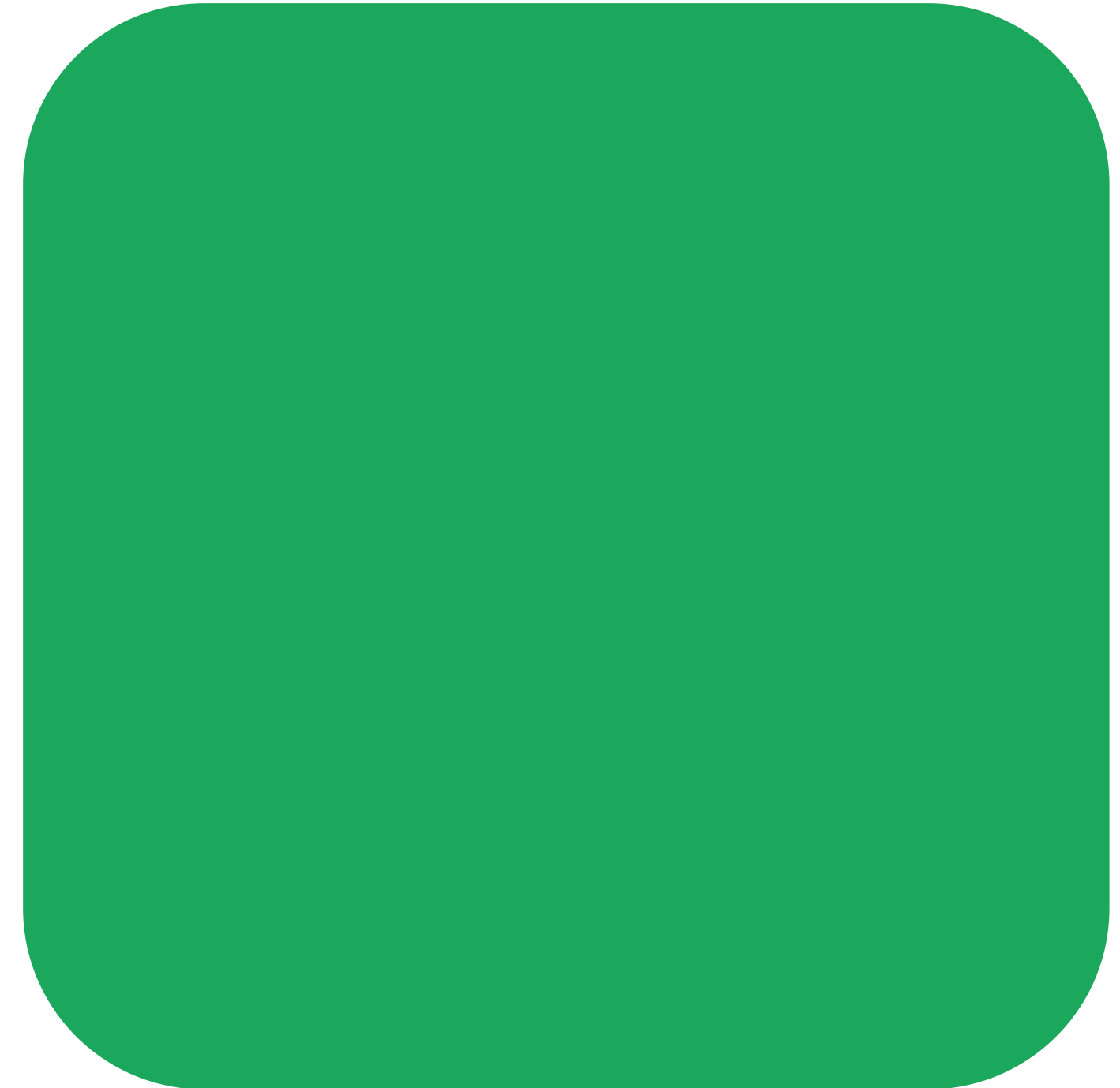
Irresponsible

- trying to „get away with it"

- younger and lower education

- not necessarily evil people

- pressure / opportunity / rationalization

They might prove to be **profitable** customers at the end but they need to be well navigated.
Do not try to change them! Understand them and work with how they are.

Psychology!

Distressed

- Out of money

- Complicated life situations

- Disoriented / ashamed

You should be **friendly** and make an effort to win them back. They might become great success stories.

Fraudsters and Irresponsible might **pretend** to look like Distressed. Hard to distinguish.

Prevention and care!

Prevention / early recognition

Behavioral scoring

Notifications scaling

Ease of 1st step

Customer support

Recovery options

02
Mitigation of threats

UX

vs.

Risk

> **Complexity needs to stay. But customer needs to be shielded from it by technology.**

Data

- As few directly from customer as possible

- As many from other sources as possible

- Regularly reconsider data sources

- Pre-processing

- Check consistency

- Junk in = junk out

- Paid sources / Margin

Perfect data **collection**, **understanding** and making them **work** for you is obviously one of the most critical aspects of any highly automated online operations.

Modelling

- Scoring and CLTV

- History -> Prediction

- Credit risk vs. Fraud risk

- Application / Behavioral

Cool and important, but plays its role efficiently only as long as it is situated in an **environment** that provides support in case of inaccurate assessment (= fall back plan).
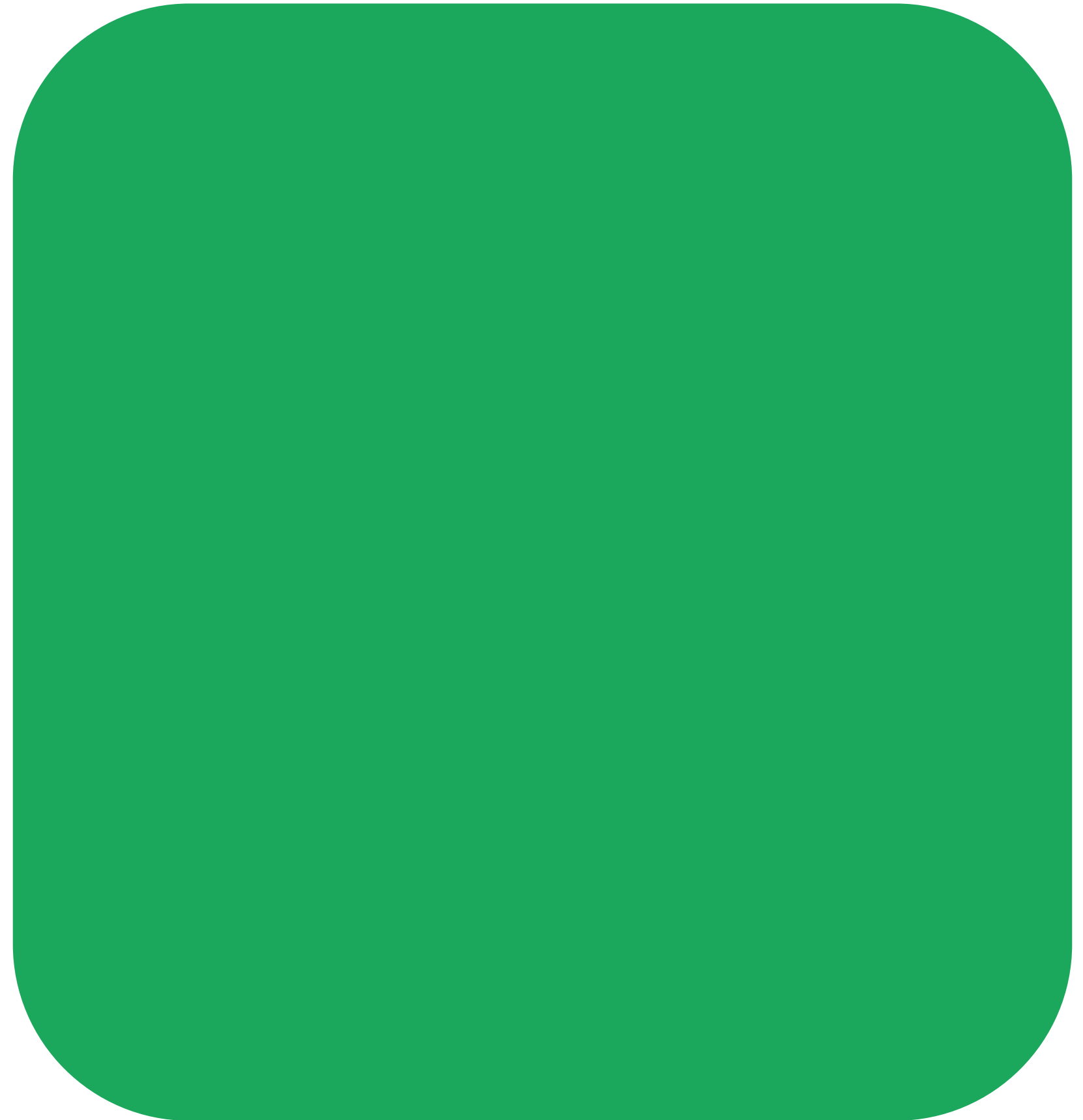
Non scoring tools

- Complementary to scoring

- Not as accurate and sexy

- More robust

- Passportable internationally

No single tool that we use is the „**silver bullet**" for risk mitigation. Well cultivated environment in which particular tools **complement** each other. We approach the risk from different vectors and that does the trick.
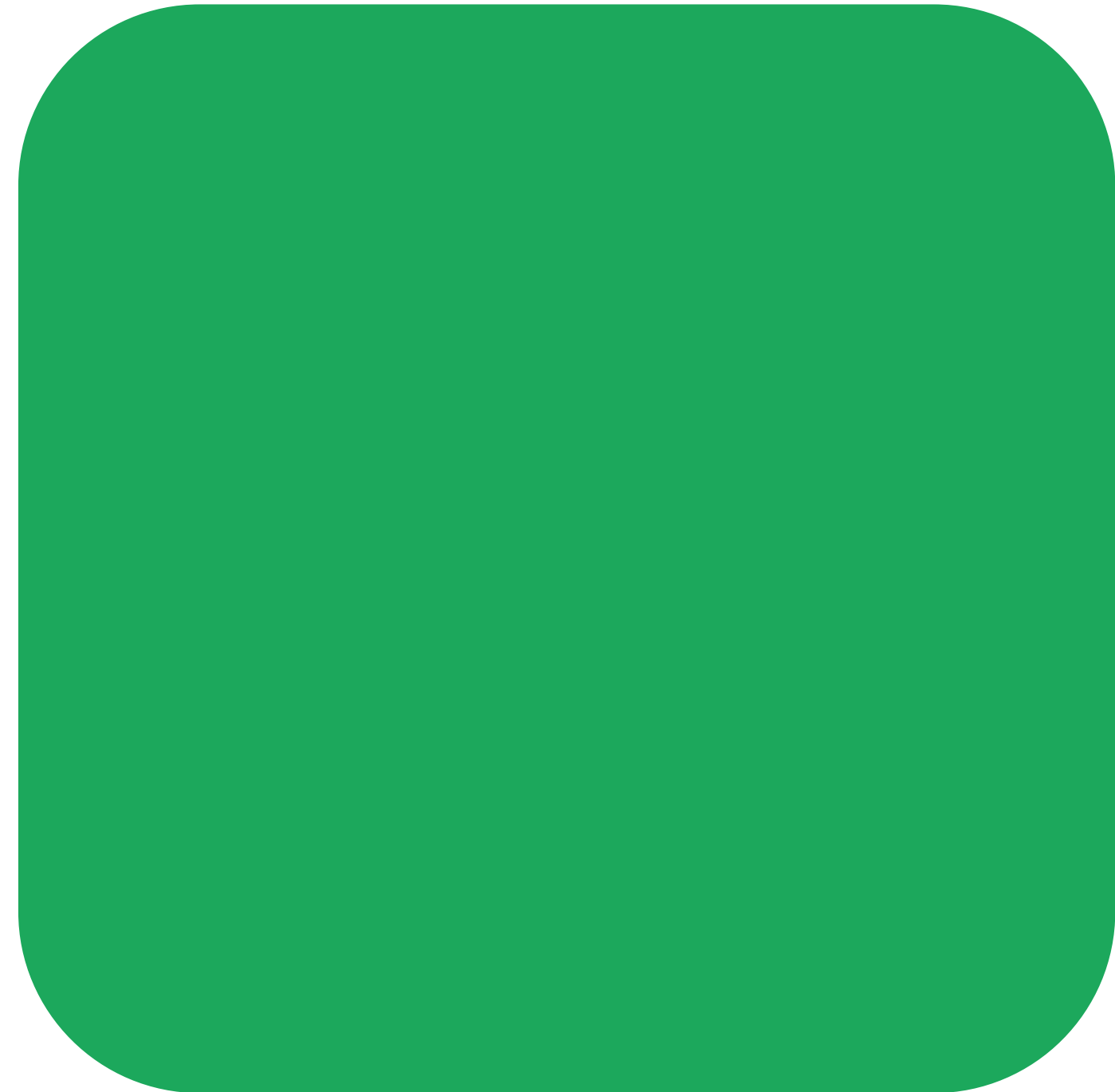
Scoring customer ID **48401**

Number of nodes 3526
First check date 2014-11-27 13:47:49
Last check date 2019-05-14 19:15:49

Check type
☐ **Defaulted checks** 0
☐ **Fraud checks** 0
☐ **Account clients** 3027
☐ **Now clients** 499
☐ **Twisto** 3475
☐ **Nikita** 51

Connection type
☐ A ☐ BP ☐ DP ☐ E ☐ F2 ☐ F3 ☐ I ☐ iOS
☐ L ☐ S

Email

Begin typing an email to filter...

Colors
◉ Risk status ◯ Django admin

Labels
◉ Check ID ◯ Email

Toggle legend   Reset filter

VITEJTE UŽIVATELI MICHAL KROČIL
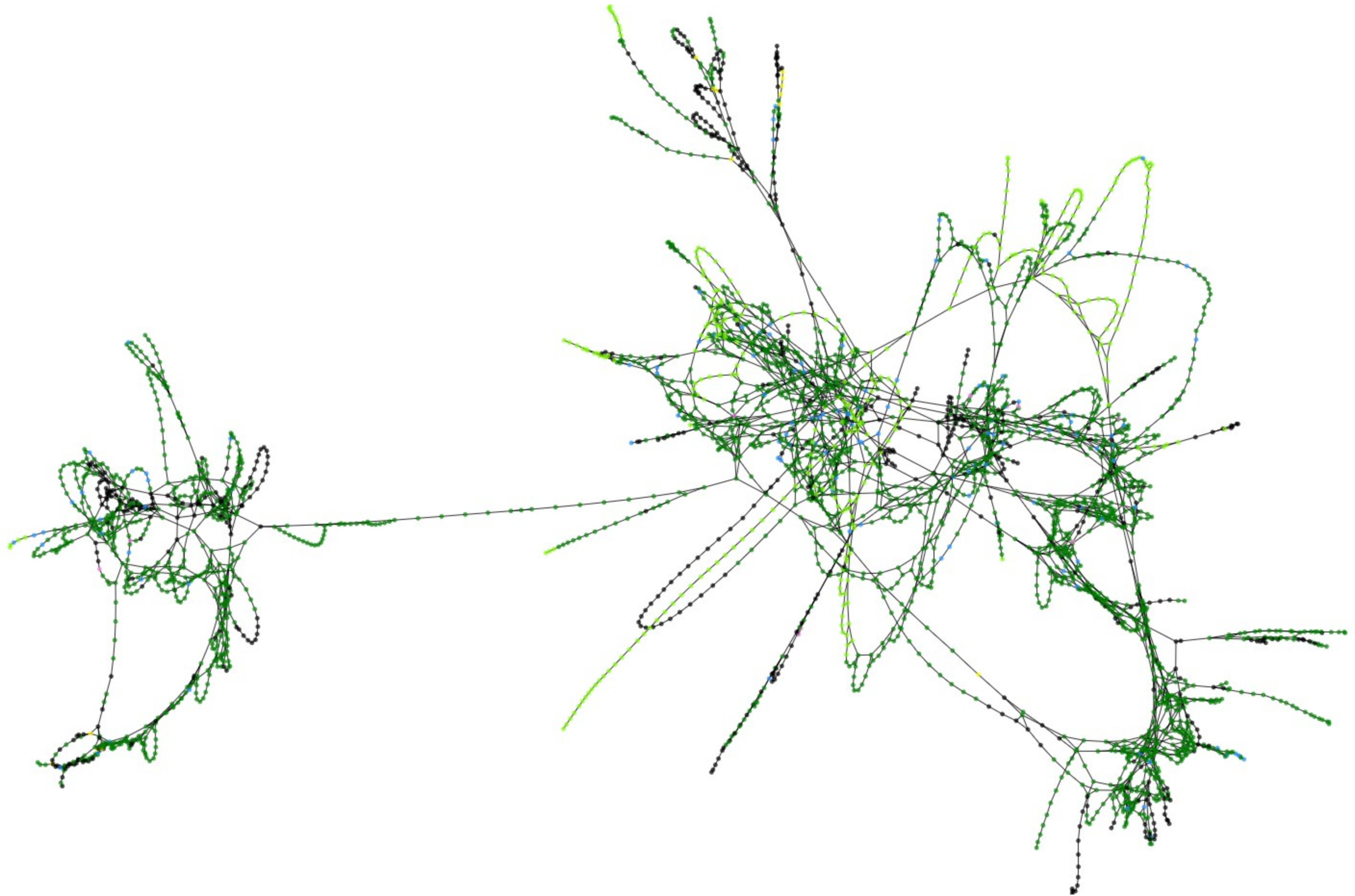
Vyberte položku scoring ko ke změně

TYPE	IS KO
Address blacklist	o
Annual limit	o
Bad KO	o
Benefi	o
Check blacklist	o
Check fingerprint blacklist	o
IP address blacklist	o
Defaulted invoices	o
Invalid email	o
Email server blacklist	o
Foreign IP	o
Related to check marked as fraud	o
Insolvency: name	o
Invalid address	o
Invalid name	o
Low price	o
Min. previous orders	o
Mobile missing local IP	o
Overdue invoices	o
Recent failed phone number verifications	o
Phone number	o
Blacklisted phone number	o
Price limit	✓
Repeated order	o
Request	o
Required account	o
Tor exit node	o
Velocity: one day	o
Velocity: two hours	o

scoring model: změnit

[Train model] [Deploy model]

Name: generic_g6_keras

Description:

Sample: generic_g6

Features:

Dostupné položky: features

Filtr

customer_id_count
fingerprint_length
order_additional_charge
order_courier_tip
order_has_discount
order_relative_size
order_shipment_price
order_total_price_vat
paid_invoices_count
upgrade_age
upgrade_disposable_income
upgrade_education_type_1
upgrade_education_type_2

Vybrané položky features

browser_apple
browser_family
browser_screen_ratio
check_date_created_hour
email_length
email_name_distance
email_num_digits
email_num_specials
email_repeated_chars
email_shared_db
gender
grammar
name_num_capitals

Odebrat vše

Vybrat vše

Vyber více než jedné položky je možný přidržením klávesy "Control" (nebo "Command" na Macu).

Split test size: 0,3

☑ Split stratify

Classifier type: Neural network (Keras)

Classifier params: 0

Anomaly Detection (Remote IP, 28 Days) APP 05:01

Anomaly Detection (Remote IP, 28 Days)

An unusual activity over last 28 days was seen using these IP addresses:

IP address: 46.28.106.34
Activity over last 28 days: (17 IDs / 17 checks)
Network: WEDOS-HOSTING

IP address: 63.34.192.36
Activity over last 28 days: (9285 IDs / 9294 checks)
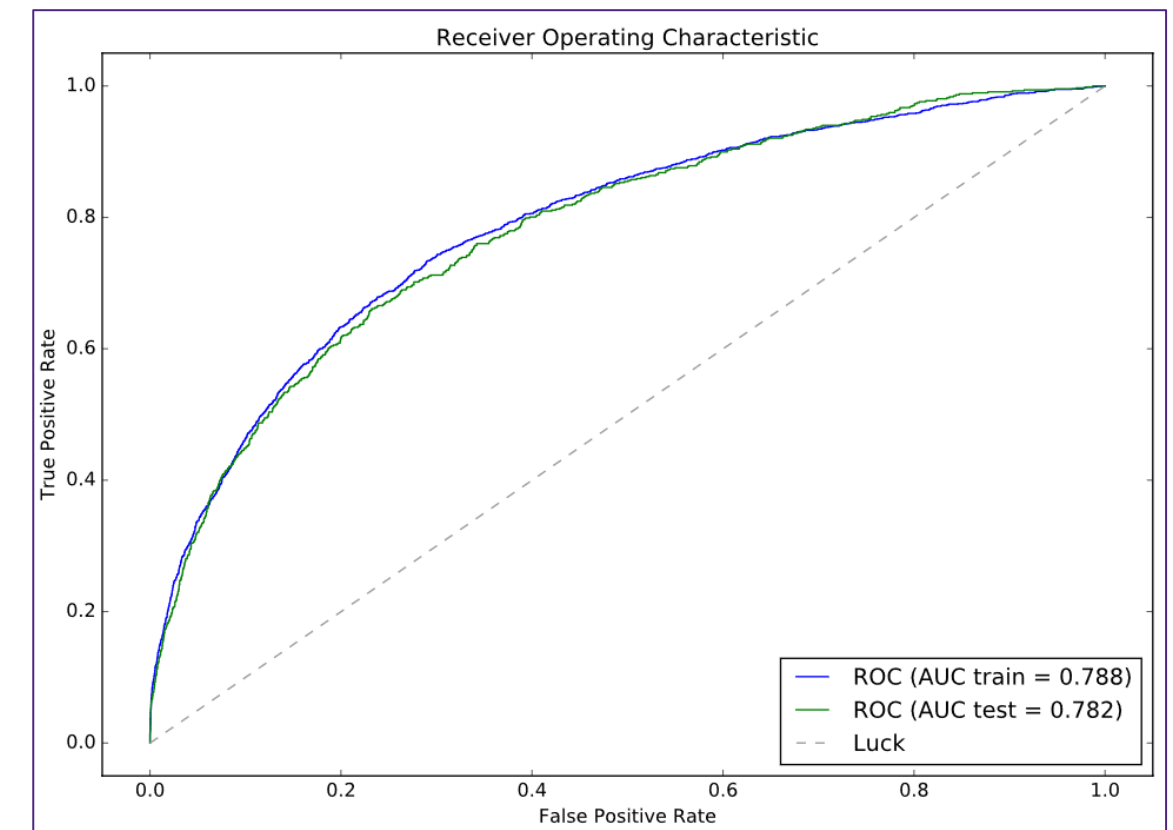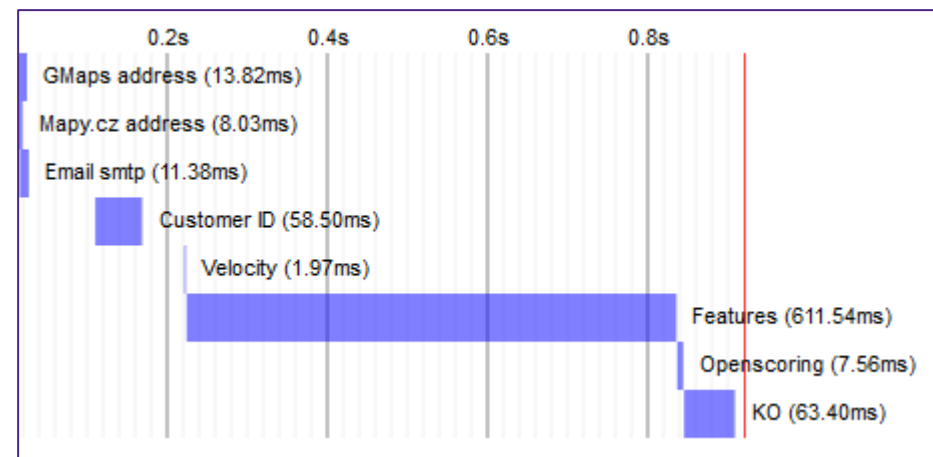Network: IANA-BLK

IP address: 91.214.156.2
Activity over last 28 days: (12 IDs / 15 checks)
Network: MPSV-NET

IP address: 91.214.158.2
Activity over last 28 days: (13 IDs / 22 checks)
Network: MPSV-NET

IP address: 109.105.39.3
Activity over last 28 days: (10 IDs / 17 checks)
Network: FTTH

IP address: 185.200.108.254
Activity over last 28 days: (11 IDs / 13 checks)
Network: Mraknet108

IP address: 194.213.41.2
Activity over last 28 days: (21 IDs / 25 checks)
Network: MINSPRAV-CZ

GMaps address (13.82ms)
Mapy.cz address (8.03ms)
Email smtp (11.38ms)
Customer ID (58.50ms)
Velocity (1.97ms)
Features (611.54ms)
Openscoring (7.56ms)
KO (63.40ms)

0.2s 0.4s 0.6s 0.8s

Receiver Operating Characteristic

True Positive Rate vs False Positive Rate

ROC (AUC train = 0.788)
ROC (AUC test = 0.782)
Luck

+ Data
+ Technology
+ People
_____
= Success

Thank you!

Michal Kročil
michal.krocil@twisto.cz
+420 608 966 643