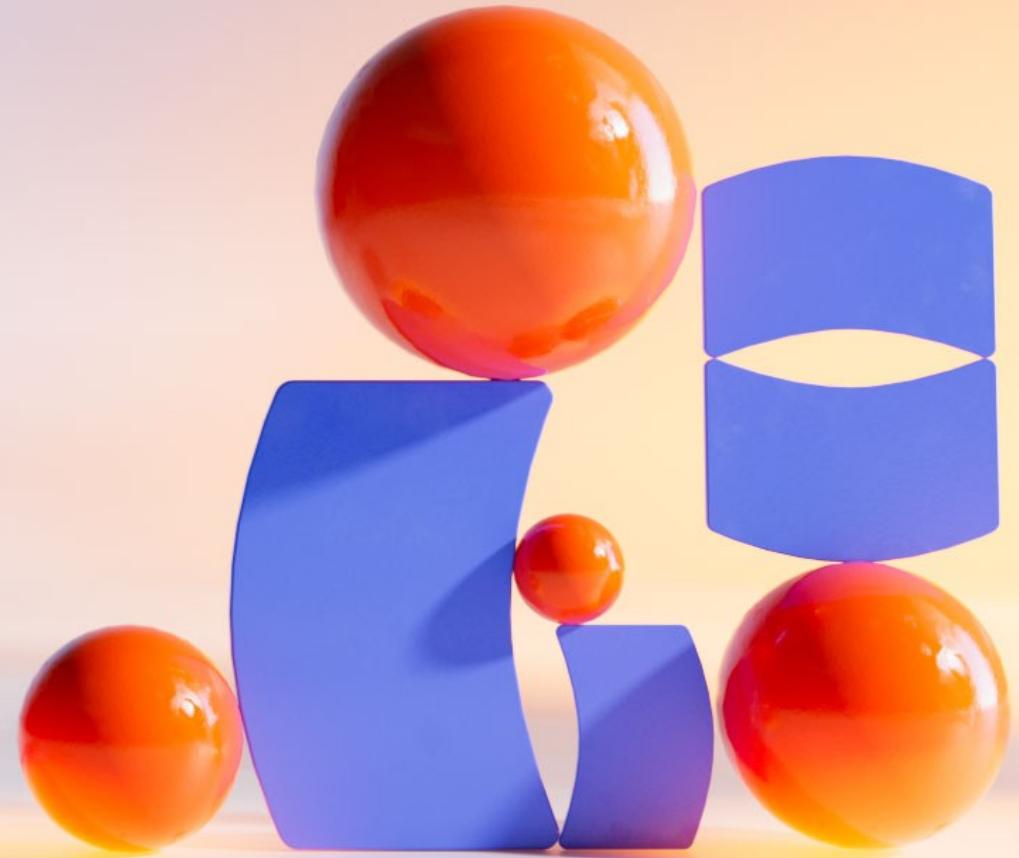


Meet Olga – How we fight fraud



Agenda

1. Background: Fraud, Vipps and what Olga is
2. Practical learnings around fraud detection
3. Data science challenges
4. Questions



«Olga-svindel»

OPPSUMMERT
En eldre kvinne ble utsatt for svindel fra kriminelle som utgav seg for å være en representant for banken og forleddet henne til å oppgi passord og koder. Svindlerne går etter kvinner med gammeldags fornavn, og svindelen er kalt «Olga-svindel».

21. juli 2022 kl. 04:20
Dømt for 65 digitale ran av eldre kvinner

Den dømte mannen har vært sentral i stort kriminel nettverk, der trusler, frukt og spillegeld har vært sentrale ingredienser. I jakten på penger, gikk de etter eldre damer.

Saken er ofte omtalt som Olga-saken, fordi hele seks av de frie for svindelen heter Olga.

«Mr. X» dømt for 65 digitale ran av eldre kvinner

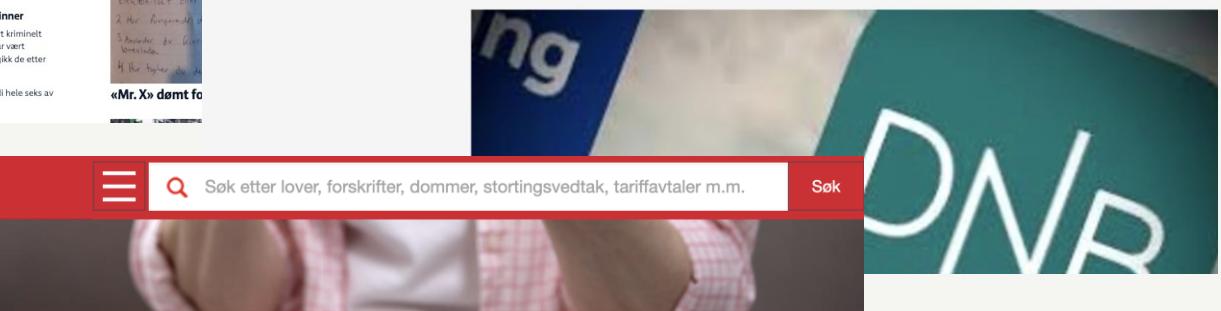
Nettavisen Nyheter.

Olga-svindel

Falsk politi lurte kvinnen til å overføre 850.000

Direktesport Pluss Na Live Nyhete

LOVDATA



Seier for «Olga» i Høyesterett

Kvinnen som ble utsatt for «Olga-svindel» fikk medhold i Høyesterett for sitt krav om tilbakeføring av svindelbeløpet fra banken. Dommen avklarer hva som skal til for at en bankkunde kan sies å ha handlet forsettlig, og vil være retningsgivende for bankenes praksis i slike svindelsaker.

i
Artikkelen
er mer
enn ett år
gammel.

Artikkelen ble publisert 15. desember 2022 08:46 av Jenny Klem, Lovdata. Du kan lese mer om artikkelen ved å følge [lenken](#).

En eldre kvinne ble svindlet av kriminelle som utgav seg for å være en representant for banken og forleddet henne til å oppgi passord og koder for BankID. I Høyesteretts dom 13. september 2022 (HR-2022-1752-A) ble det avklart at banken var ansvarlig for mesteparten tapet, og at kvinnens ansvar var begrenset til en egenandel på 12 000 kroner.

- Social manipulation
- Account takeover
- Stolen phones
- Goods not received





12M

USERS



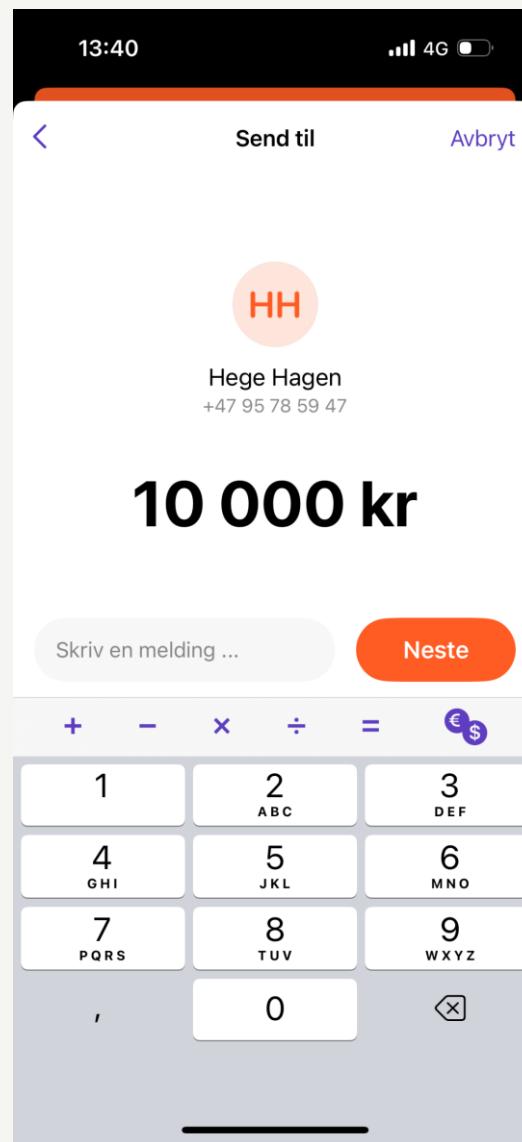
500 000

SHOPS



>1B/Y

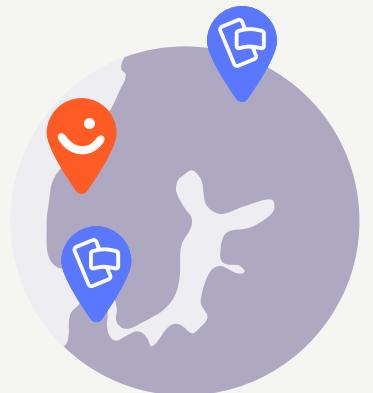
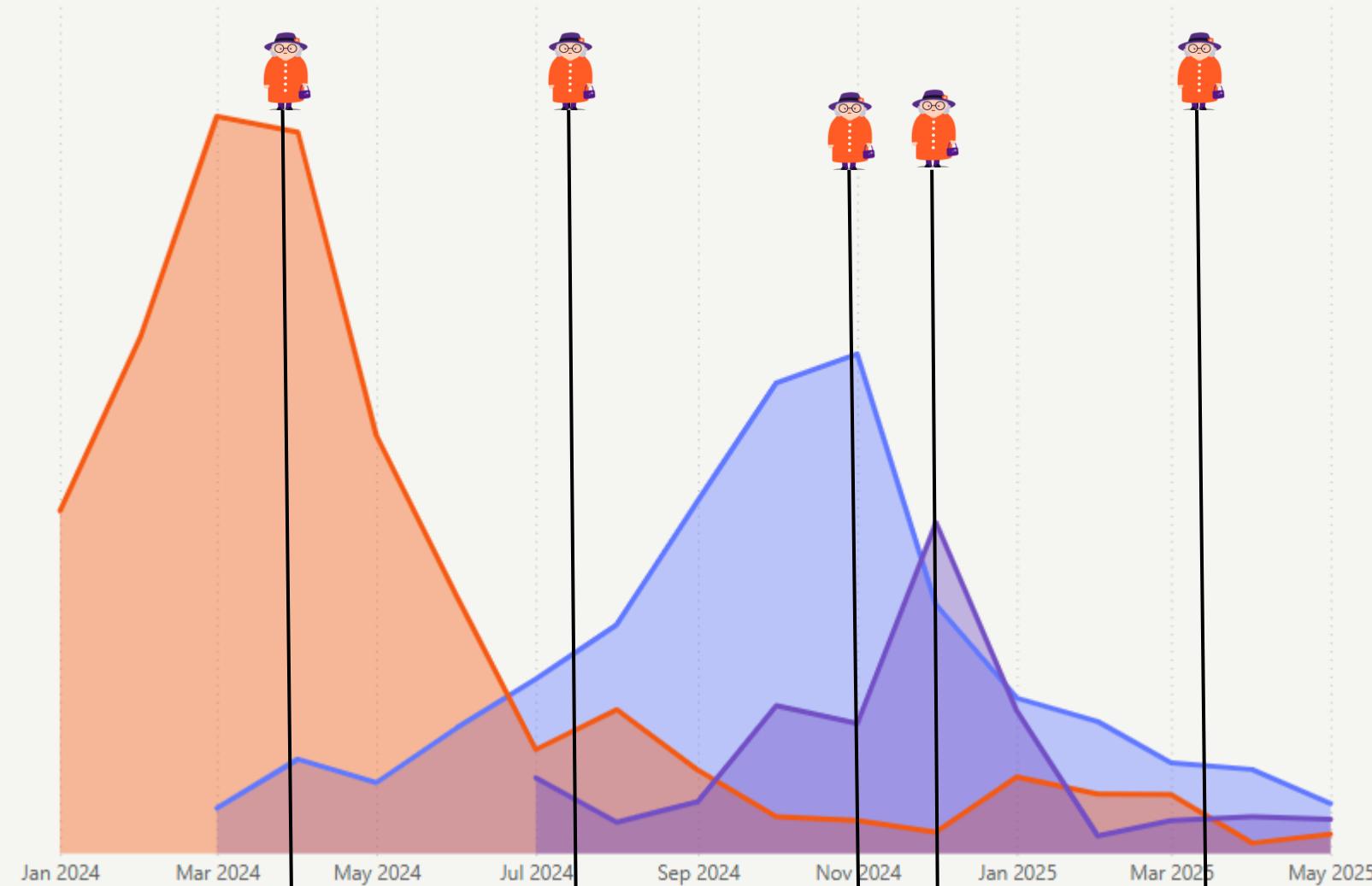
TRANSACTIONS



Olga in action

Total volume of reported P2P transactions

market ● DNK ● NOR ● x-border

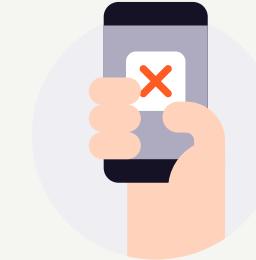


A hybrid system

Olga	Pros	Cons
Static rules <i>(Deterministic: uses explicit IF/THEN logic)</i>	<ul style="list-style-type: none">○ Simplicity & transparency○ Deterministic behaviour<ul style="list-style-type: none">- easy to test and validate○ Fast execution	<ul style="list-style-type: none">○ Limited adaptability○ High false positive rate○ Requires frequent tuning○ Limit "Olga" from adapting to new trends
AI and Machine Learning <i>(Probabilistic: generates risk score)</i>	<ul style="list-style-type: none">○ Adaptability & scalability<ul style="list-style-type: none">- Continuously learns and adapts to new fraud patterns○ Possibility to adjust aggressiveness○ Reduced false positives○ Feature-rich detection	<ul style="list-style-type: none">○ Data dependency<ul style="list-style-type: none">- Requires large amounts of high-quality labelled data to train effectively○ High development and operational costs

Designing Olga under real-world constraints

- Real-time user-facing decisions
- Large portfolio of products and markets
- An adversarial, economic game



Perfect detection is not the objective

- We do not need to block all fraud of a type for it to largely disappear from our platform
- Introducing sufficient friction and reducing expected gains shifts fraudsters elsewhere
- This is why collaboration and data sharing is vital



All transactions are not equal

- Tailoring models to specific markets performs better than using a single model across markets



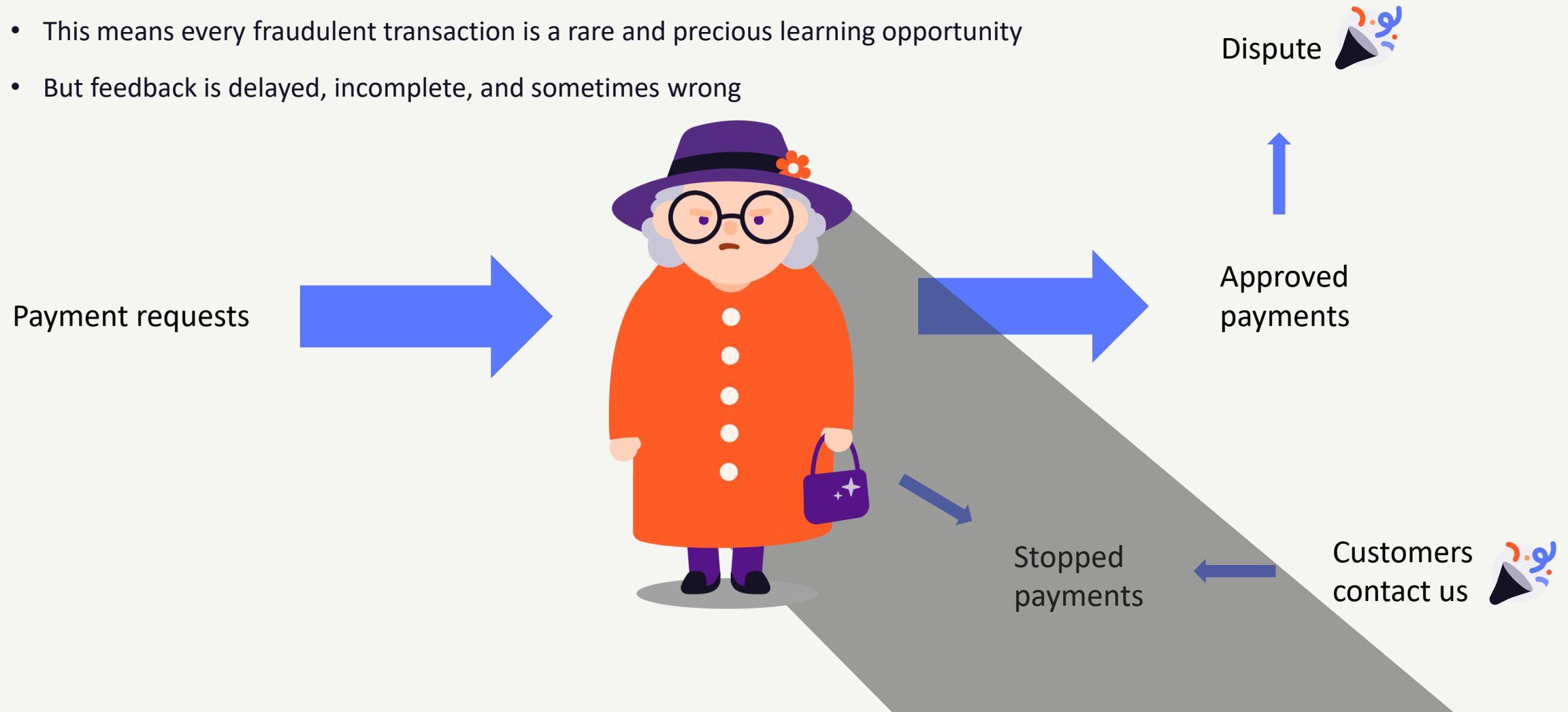
Designing a real-time system

- Pre-computing/aggregating features is a must
- Given our constraints supervised learning with decision trees is appropriate
- Microservices deployed in Kubernetes so each component can scale as needed
- Monitoring and fallback on deadline



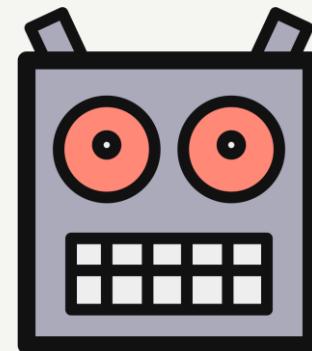
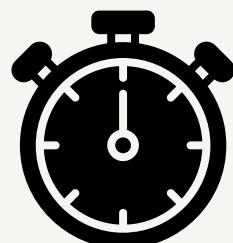
The Great Challenge: Fraud is rare and ambiguous

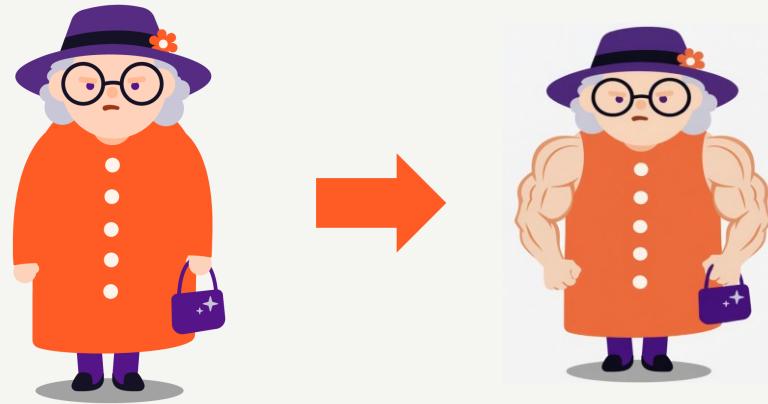
- There are millions of legitimate transactions for every fraudulent one
- This means every fraudulent transaction is a rare and precious learning opportunity
- But feedback is delayed, incomplete, and sometimes wrong



Uncertain feedback and an evolving fraud landscape

- Customers notify us of disputes; disputes form the basis of patterns we want Olga to stop!
- But disputes are:
 - Delayed
 - Rarely clear cut, there is always two sides
 - Require thorough investigation





Thank you!