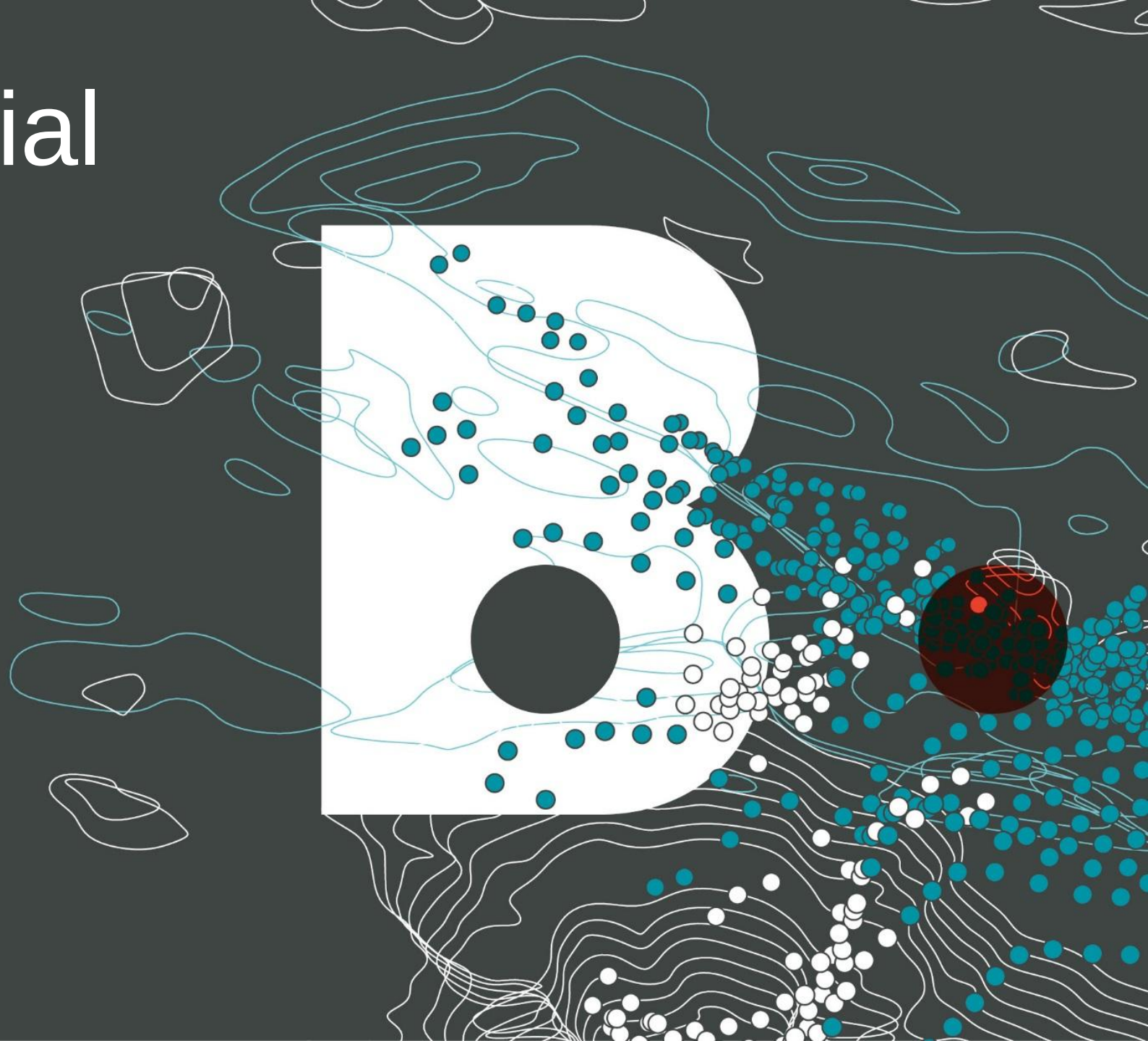
How is Artificial Intelligence changing the world?

Ondřej Vaněk
Co-founder & Chief Executive Officer
Blindspot Solutions



BLINDSPOT.AI
Member of Adastra Group

Blindspot Solutions at a glance

Delivering end-to-end implementations of AI systems in international environment for multinational companies and startups for more than

5
years

The company is member of Adastra Group and is located in

Prague, Czech Republic

60
experts

Recruiting top AI talent at the best universities – Cambridge, Imperial College, CTU, Charles University

8
PhDs

50
MScs

Employing professionals with experience from leading corporations – Google, Facebook, Amazon Oracle

We deploy pre-developed

internal AI products and pipelines

to fasten the development process of custom developed solutions.

We merge **machine learning and optimization**

to deliver not only predictions, but also recommended next best actions – we build decision support systems

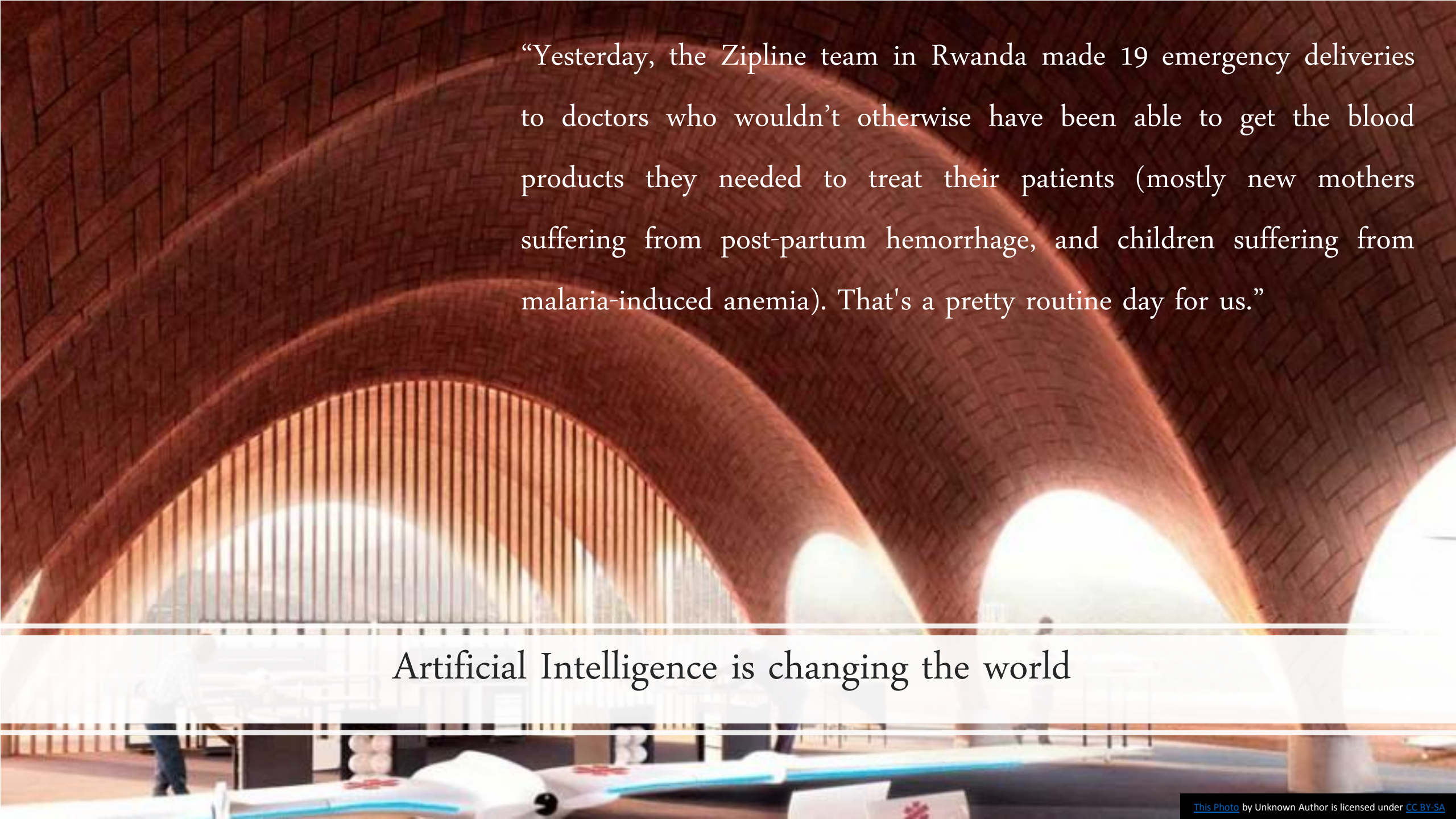
Our delivery is centered around AI engines, but we provide

end – to – end solutions

based on web applications with intuitive UI, integration and deployment, application support and process change.

We delivered solutions in many industries such as

cyber security, automotive, insurance, banking, utilities, e-commerce, telco, retail



"Yesterday, the Zipline team in Rwanda made 19 emergency deliveries to doctors who wouldn't otherwise have been able to get the blood products they needed to treat their patients (mostly new mothers suffering from post-partum hemorrhage, and children suffering from malaria-induced anemia). That's a pretty routine day for us."

Artificial Intelligence is changing the world

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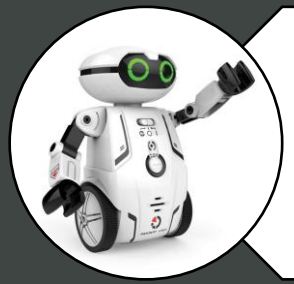


What is AI?

The role of (big) data

Stories

Gartner defines AI as **applying advanced analysis** and logic-based techniques, including machine learning, to interpret events, support and automate decisions, and take action.

Common definitions of AI focus on automation and, as a result, often fail to make clear the opportunities available to IT and business leaders. **AI is technology that emulates human performance, typically by learning from it**.

The most common mistake with AI is to focus on automation rather than **augmentation of human**

"Look for critical business points where human interaction or human expertise adds value."

„Artificial Intelligence is a set of technologies and a field of research which enables

Automation, **Acceleration** and **Scalability**

of human

Perception and **Decision Making**.“

- prof. Michal Pěchouček

Strong vs. Weak AI

A brief story of strong AI

1963	1983	1997	2018	?
Strong AI in ten years, fifteen at maximum	Ability to play chess equals strong AI	Deep Blue II beats Gary Kasparov	First complex reasoning (self-driving cars, Google Duplex)	Strong AI

https://willrobotstakemyjob.com/

98%

slack
It's teamwork, but simpler, more pleasant and more productive.
ADS VIA CARBON

Insurance Claims and Policy Processing Clerks

SOC CODE: 43-9041

Slack
It's teamwork, but simpler, more pleasant and more productive

Process new insurance policies, modifications to existing policies, and claims forms. Obtain information from policyholders to verify the accuracy and completeness of information on claims forms, applications and related documents, and company records. Update existing policies and company records to reflect changes requested by policyholders and insurance company representatives.

AUTOMATION RISK LEVEL
You are doomed
or 98% probability of automation

PROJECTED GROWTH
6%
by 2024

MEDIAN ANNUAL WAGE
$38,430
or $18.47 hourly

PEOPLE EMPLOYED
274,350
as of 2016

99%

slack
All the tools your team needs in one place. Slack: Where work happens.
ADS VIA CARBON

Insurance Underwriters

SOC CODE: 13-2053

Review individual applications for insurance to evaluate degree of risk involved and determine acceptance of applications.

AUTOMATION RISK LEVEL
You are doomed
or 99% probability of automation

PROJECTED GROWTH
-11%
by 2024

MEDIAN ANNUAL WAGE
$67,680
or $32.54 hourly

PEOPLE EMPLOYED
91,650
as of 2016

98%

slack
All the tools your team needs in one place. Slack: Where work happens.
ADS VIA CARBON

Insurance Appraisers, Auto Damage

SOC CODE: 13-1032

Slack
It's teamwork, but simpler, more pleasant and more productive

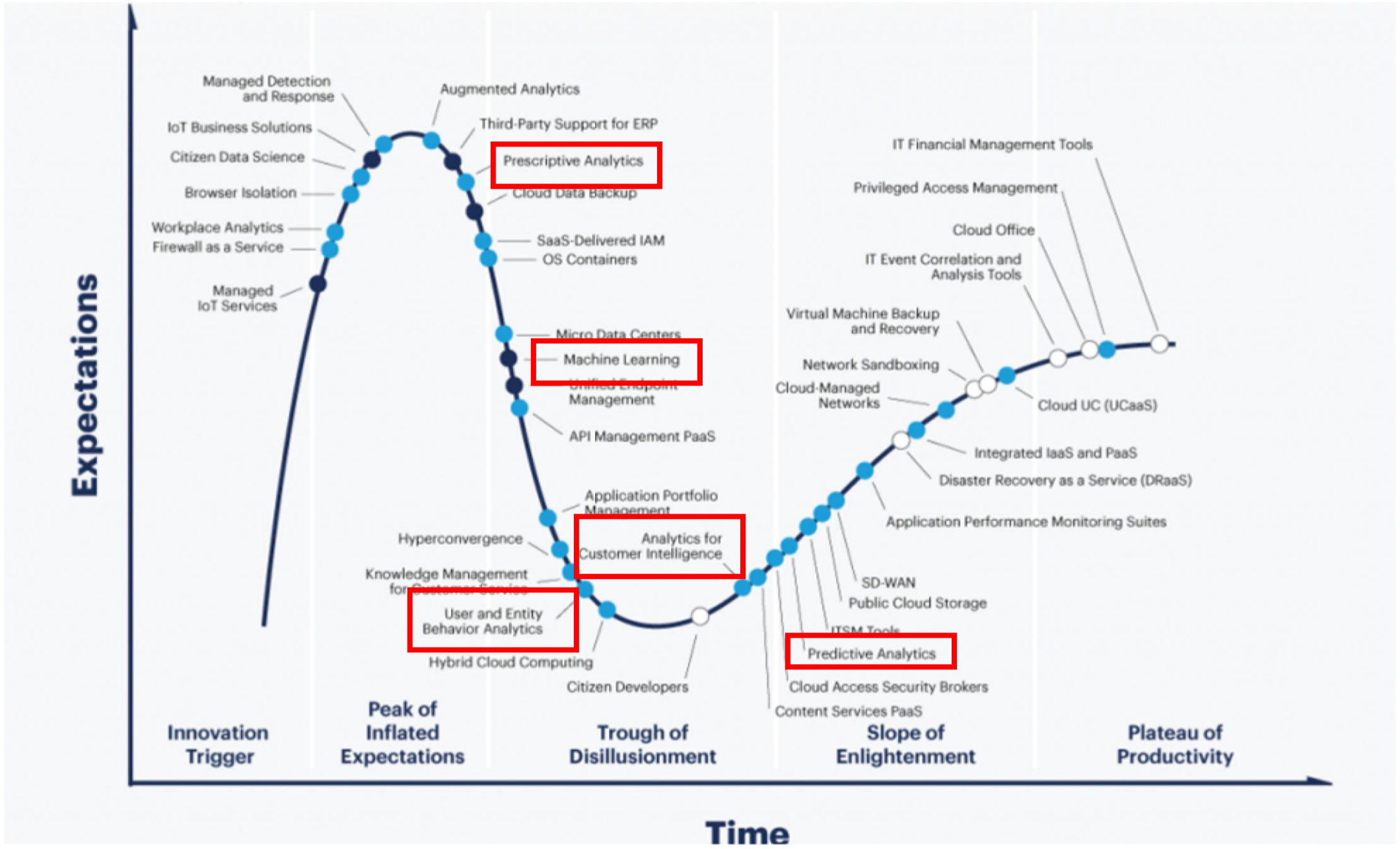
Appraise automobile or other vehicle damage to determine repair costs for insurance claim settlement. Prepare insurance forms to indicate repair cost or cost estimates and recommendations. May seek agreement with automotive repair shop on repair costs.

AUTOMATION RISK LEVEL
You are doomed
or 98% probability of automation

PROJECTED GROWTH
-1%
by 2024

MEDIAN ANNUAL WAGE
$63,510
or $30.53 hourly

PEOPLE EMPLOYED
15,130
as of 2016


Expectations
Time
Innovation Trigger
Peak of Inflated Expectations
Trough of Disillusionment
Slope of Enlightenment
Plateau of Productivity
Managed Detection and Response
IoT Business Solutions
Citizen Data Science
Browser Isolation
Workplace Analytics
Firewall as a Service
Managed IoT Services
Augmented Analytics
Third-Party Support for ERP
Prescriptive Analytics
Cloud Data Backup
SaaS-Delivered IAM
OS Containers
Micro Data Centers
Machine Learning
Management
API Management PaaS
Application Portfolio Management
Hyperconvergence
Analytics for Customer Intelligence
Knowledge Management for
User and Entity Behavior Analytics
Hybrid Cloud Computing
Citizen Developers
IT Financial Management Tools
Privileged Access Management
Cloud Office
IT Event Correlation and Analysis Tools
Virtual Machine Backup and Recovery
Network Sandboxing
Cloud-Managed Networks
Cloud UC (UCaaS)
Integrated IaaS and PaaS
Disaster Recovery as a Service (DRaaS)
Application Performance Monitoring Suites
SD-WAN
Public Cloud Storage
Predictive Analytics
Cloud Access Security Brokers
Content Services PaaS

The role of data

The role of data in a nutshell	The reality is described by data.
	The model of reality is built from the data.
	The more RELEVANT data, the better the model, the better the reasoning.

“ Client scoring is our core business.

We have 10 000 data points for each customer.”

- Head of Research, Home Credit

A computer program used for bail and sentencing decisions was labeled biased against blacks. It's actually not that clear.

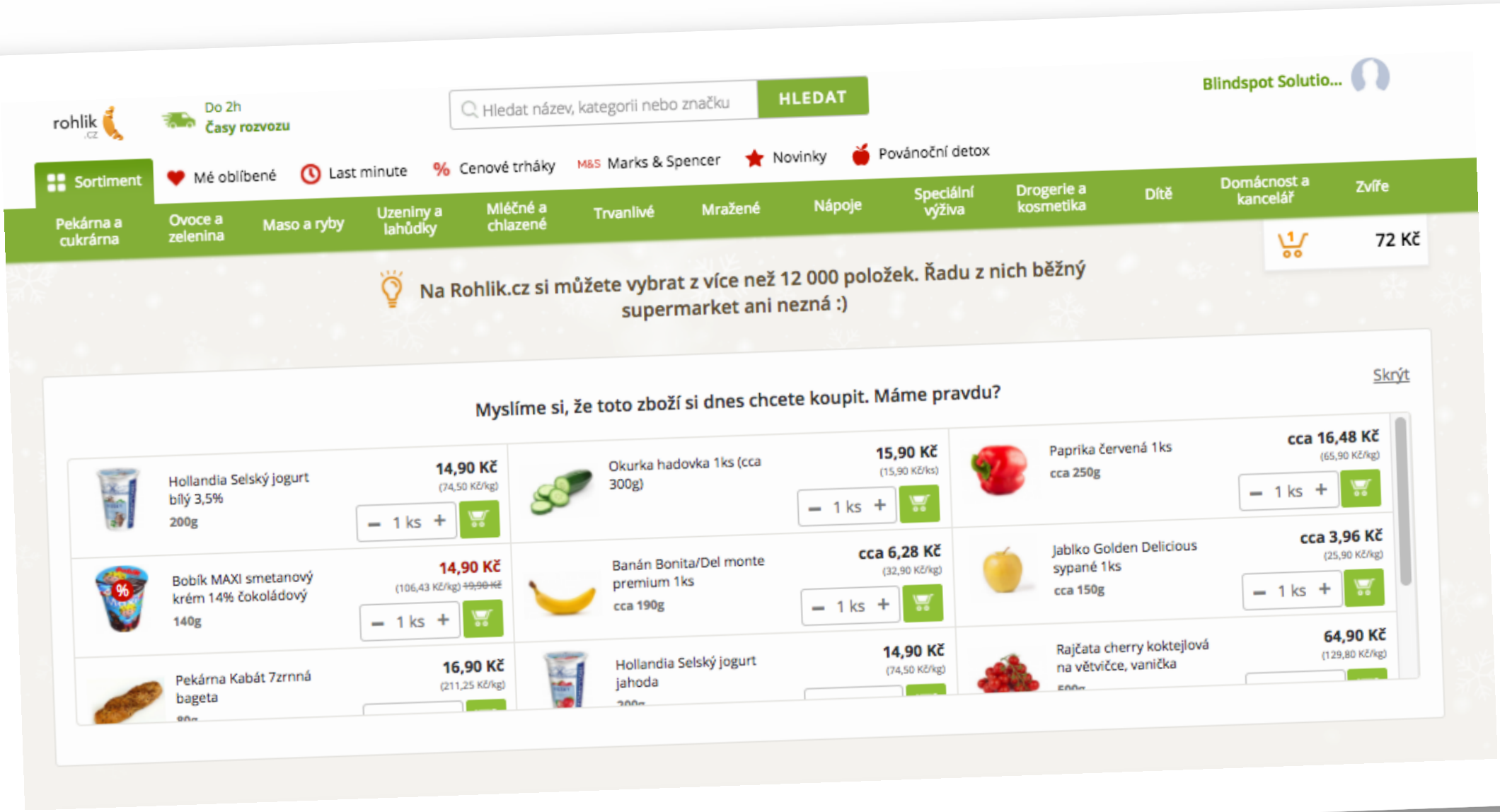
(Rich Pedroncelli/Associated Press)

Learning from biased datasets

Northpointe developed COMPAS, a system for **the prediction of recidivism**.

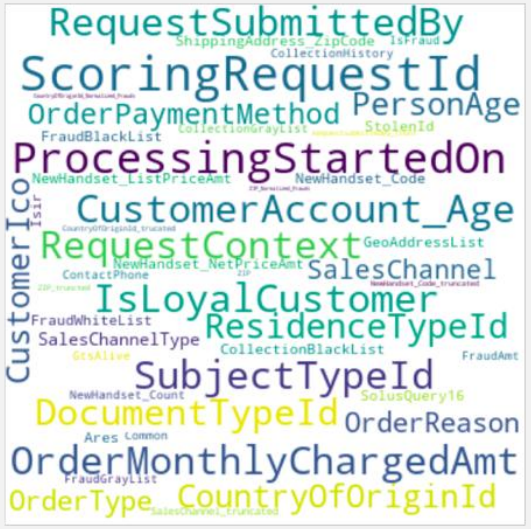
OMPAS was labeled as biased against black, as the Afro-American criminals were labeled **unfairly** more than other races.

Learning in the wild – Microsoft Tai.ai chatbot


rohlik.cz
Do 2h
Časy rozvozu
Hledat název, kategorii nebo značku
HLEDAT
Blindspot Solutio...
Sortiment
Mé oblíbené
Last minute
Cenové trháky
M&S Marks & Spencer
Novinky
Povánoční detox
Pekárna a cukrárna
Ovoce a zelenina
Maso a ryby
Uzeniny a lahůdky
Mléčné a chlazené
Trvanlivé
Mražené
Nápoje
Speciální výživa
Drogerie a kosmetika
Dítě
Domácnost a kancelář
Zvíře
72 Kč
Na Rohlik.cz si můžete vybrat z více než 12 000 položek. Řadu z nich běžný supermarket ani nezná :)
Skrýt
Myslíme si, že toto zboží si dnes chcete koupit. Máme pravdu?
Hollandia Selský jogurt bílý 3,5%
200g
14,90 Kč
(74,50 Kč/kg)
1 ks
Okurka hadovka 1ks (cca 300g)
15,90 Kč
(15,90 Kč/ks)
1 ks
Paprika červená 1ks
cca 250g
cca 16,48 Kč
(65,90 Kč/kg)
1 ks
Bobík MAXI smetanový krém 14% čokoládový
140g
14,90 Kč
(106,43 Kč/kg) 19,90 Kč
1 ks
Banán Bonita/Del monte premium 1ks
cca 190g
cca 6,28 Kč
(32,90 Kč/kg)
1 ks
Jablko Golden Delicious sypané 1ks
cca 150g
cca 3,96 Kč
(25,90 Kč/kg)
1 ks
Pekárna Kabát 7zrnná bageta
16,90 Kč
(211,25 Kč/kg)
Hollandia Selský jogurt jahoda
14,90 Kč
(74,50 Kč/kg)
Rajčata cherry koktejlová na větvičce, vanička
64,90 Kč
(129,80 Kč/kg)

AI-powered Fraud Detection System

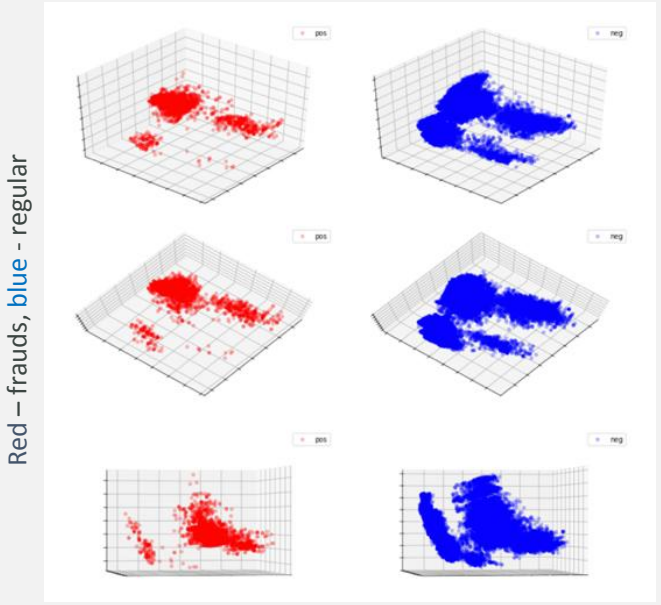
Input data



During training (learning) faze the model goes though historical data of fraudulent and regular applications. During this faze the model creates internal representation of dataset, i.e. learns the underlying landscape that is later used for classification of new applications.

Internal representation (training)

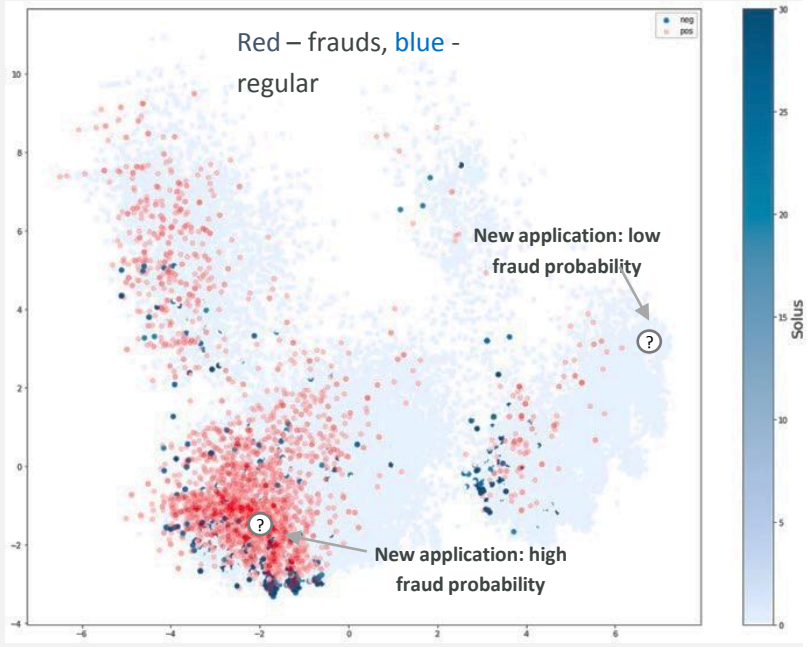
The main purpose of special internal representation is to learn such multidimensional space where similar orders would appear close to each other, while at the same time fraudulent and regular ones are divided into distant clusters. Thanks to this transformation frauds are isolated and therefore can be easily identified.



Internal representation is multidimensional, this 3D example is simplified for sake of visualization

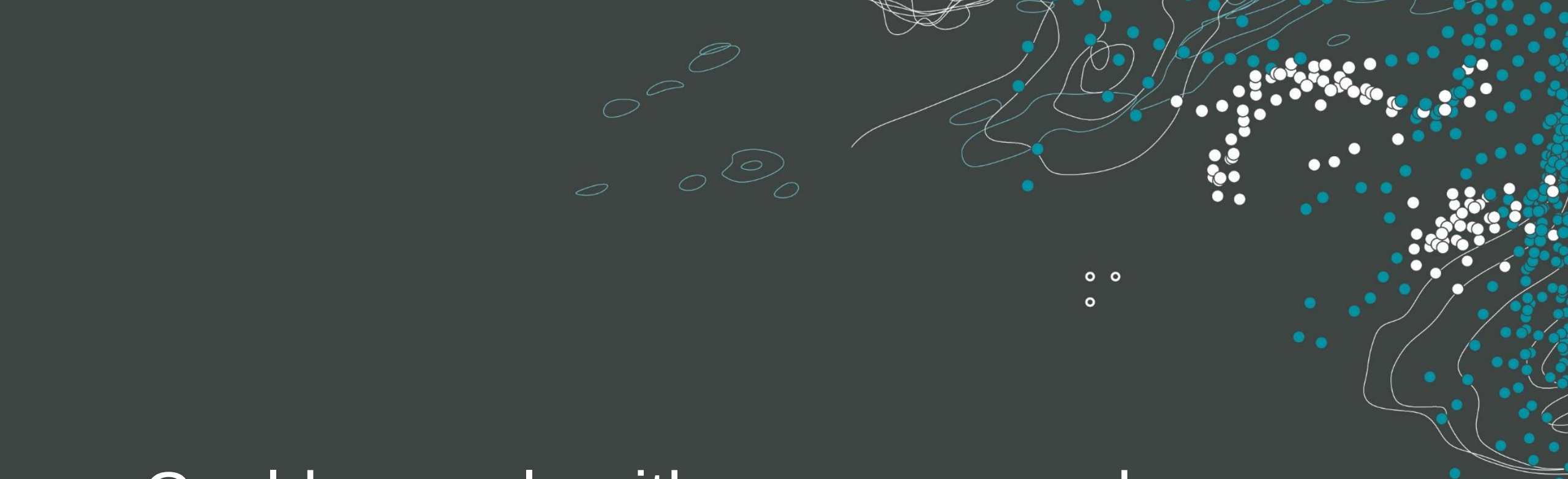
Classification

During classification new application is being mapped to learnt space to see whether it belongs to fraud cluster or not, eventually how far it is from frauds. The closer is this application to fraud concentration, the higher probability is assigned to it and vice versa.



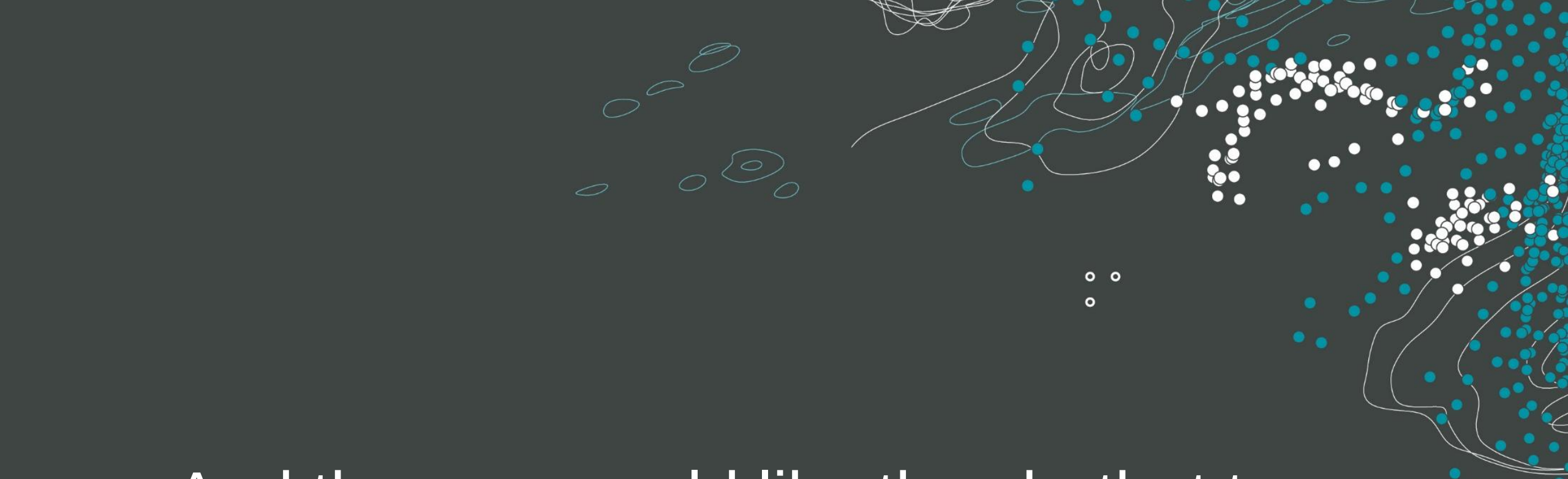
Not only this approach captures non-trivial signals in data, but also retrains itself automatically as new data arrive

3 recommendations from our clients



„Could your algorithm recommend some datasets for improvement?“

Have the right data.



„And then we would like the chatbot to have a small talk with the customer.“

Have a clear scope of the problem.

„Make here a big button MAKE ME MONEY.“

Have correct expectations.

Main take aways

AI is here and the impact will be disruptive to many industries

AI is not easy to introduce and tame.

The change hurts, however, ultimately bears fruit.

Thank you.

100 let
České společnosti
aktuárů