AI ETHICS IN THE CORPORATE WORLD BALANCING RISKS AND BENEFITS

Presenters:

Alan Lok, CFA, Director, Ethics Education and Professional Standards, Asia-Pacific, CFA Institute

Dorothy Chau, PhD, Director of Hong Kong, Macao, and Cross-border Financial Affairs, Tencent

Laurel Teo, CFA, Board Member, CFA Society Singapore

Justin Ong, CFA, President, CFA Society Malaysia

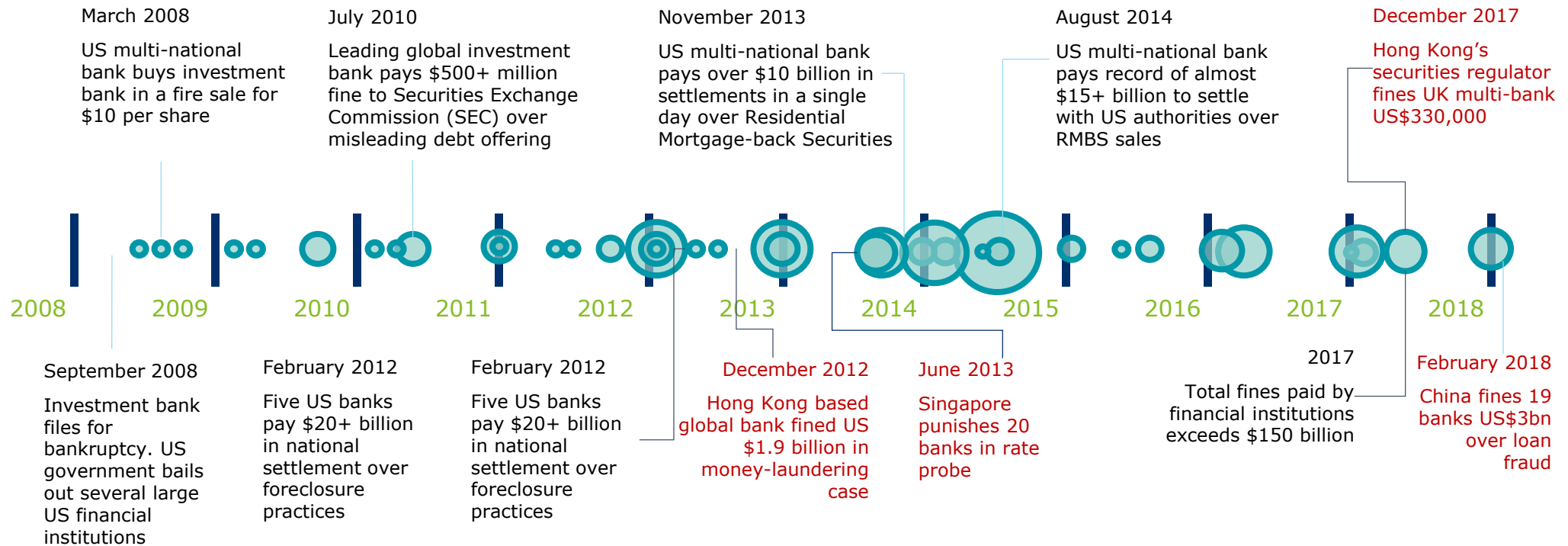# HOW ETHICAL IS OUR PROFESSION?

Justin Ong, CFA
CFA Society Malaysia

REGULATORS GLOBALLY ARE IMPOSING LARGE FINES FOR MISCONDUCT

Misconduct is not new, but multi-million dollar regulatory and criminal fines reveal weaknesses in risk management.

Timeline of major bank fines from 2008 financial crisis (Asian regulatory action shown in **red**)

March 2008
US multi-national bank buys investment bank in a fire sale for $10 per share

July 2010
Leading global investment bank pays $500+ million fine to Securities Exchange Commission (SEC) over misleading debt offering

November 2013
US multi-national bank pays over $10 billion in settlements in a single day over Residential Mortgage-back Securities

August 2014
US multi-national bank pays record of almost $15+ billion to settle with US authorities over RMBS sales

December 2017
Hong Kong's securities regulator fines UK multi-bank US$330,000

Timeline years: 2008 — 2009 — 2010 — 2011 — 2012 — 2013 — 2014 — 2015 — 2016 — 2017 — 2018

September 2008
Investment bank files for bankruptcy. US government bails out several large US financial institutions

February 2012
Five US banks pay $20+ billion in national settlement over foreclosure practices

February 2012
Five US banks pay $20+ billion in national settlement over foreclosure practices

December 2012
Hong Kong based global bank fined US $1.9 billion in money-laundering case

June 2013
Singapore punishes 20 banks in rate probe

2017
Total fines paid by financial institutions exceeds $150 billion

February 2018
China fines 19 banks US$3bn over loan fraud

As of today, Banks globally have paid over >**US$350 billion** in fines since 2008

COMMON ETHICAL ISSUES IN FINANCIAL SERVICES INDUSTRY

Banking
- Mis-selling of retail banking products to vulnerable customers
- Fees for 'no service'
- Rogue trading

Wealth
- Provision of poor financial advice
- Failure to deliver on service commitments

Insurance
- Biased or inconsistent claims outcomes that deny customers otherwise legitimate payments
- Mis-selling of insurance products to customers who do not need them

Pensions
- Failure to make appropriate payments into employee pension funds inline with legislation or contractual agreements

CURRENT ETHICAL ISSUE: ETHICAL CUSTOMER RELATIONSHIP

Great customer service builds loyalty through personalized, value-add experiences, and creates brand advocates by transforming negative experiences into positive outcomes. A recent survey shows that, 61% of consumers say that they have stopped transacting with a business after a poor service experience.

Deception

"Advice based on what best suits customer need?"

Understanding customer's needs and provide the right services

"Advice based on highest sales commission for me?"

Engage sales tricks or display false fronts to pressure customers in desired directions

Discrimination

"I will serve whoever is more likely to benefit me"

High priority with best treatment

Medium priority with favorable treatment

Low priority with less favorable treatment

Depersonalization

"I just want to get my work done"

HOW DO PEOPLE MAKE ETHICAL DECISIONS?

Laurel Teo, CFA

CFA Society Singapore

HOW DOES ETHICAL DECISION-MAKING WORK?

- Traditional view: rational cognitive process
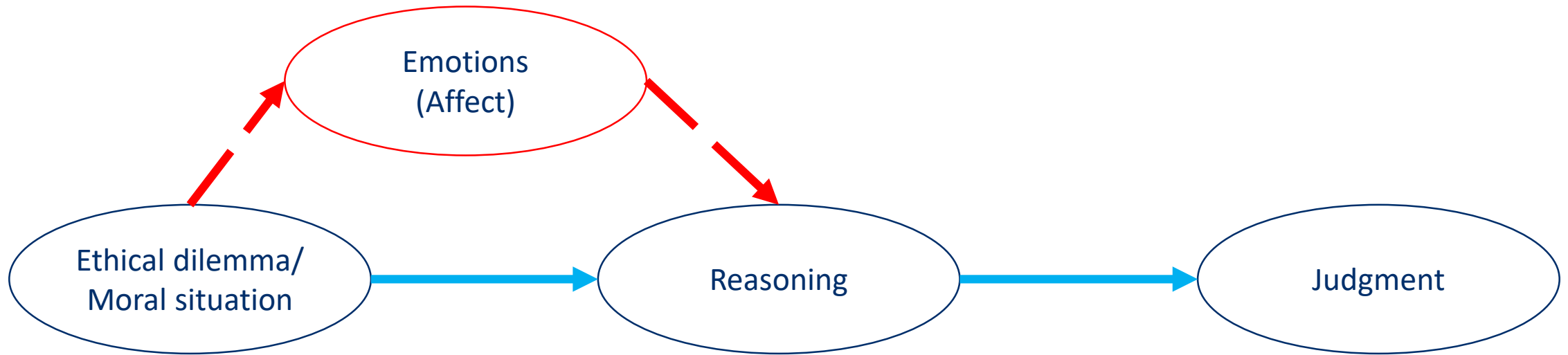
UNETHICAL = HARMFUL?

"I consider the terms 'immoral' and 'unethical' to be equivalent and adopt the position that an immoral issue is present when a person's intentional actions may **harm** one or more **other individuals**."

Joel H. Neuman, Emeritus Associate Professor
Management & Organizational Behavior (SUNY)
from *Handbook of Unethical Work Behavior: Implications for Individual Well-Being (2013)*

WHAT CONSTITUTES A MORAL/ETHICAL VIOLATION?

Cleaning dirty toilet with the national flag

Eating carcass of pet dog that died in car accident

Haidt, J., Koller, S. H., & Dias, M. G. (1993). Affect, culture, and morality, or is it wrong to eat your dog?. *Journal of Personality and Social Psychology*, *65*(4), 613–628.

HARMFUL VS. OFFENSIVE

Harmful

Offensive

Eating dead pet dog

Cleaning toilet with flag

Haidt, J., Koller, S. H., & Dias, M. G. (1993). Affect, culture, and morality, or is it wrong to eat your dog?. *Journal of Personality and Social Psychology, 65*(4), 613–628.

AN ALTERNATIVE VIEW OF ETHICS...

Jonathan Haidt, Professor of Ethical Leadership, NYU Stern

Intuitive
- Most of our moral behaviors and judgements made automatically

Emotional
- We experience strong emotions – e.g. shame, anger, guilt, remorse disgust, pride, sympathy – in many moral situations

Social
- We are influenced in our moral judgements by social norms
- Judgments of those around us play a key role

Evolutionary adaptation

ALTERNATIVE: SOCIAL-INTUITIONIST MODEL OF ETHICS
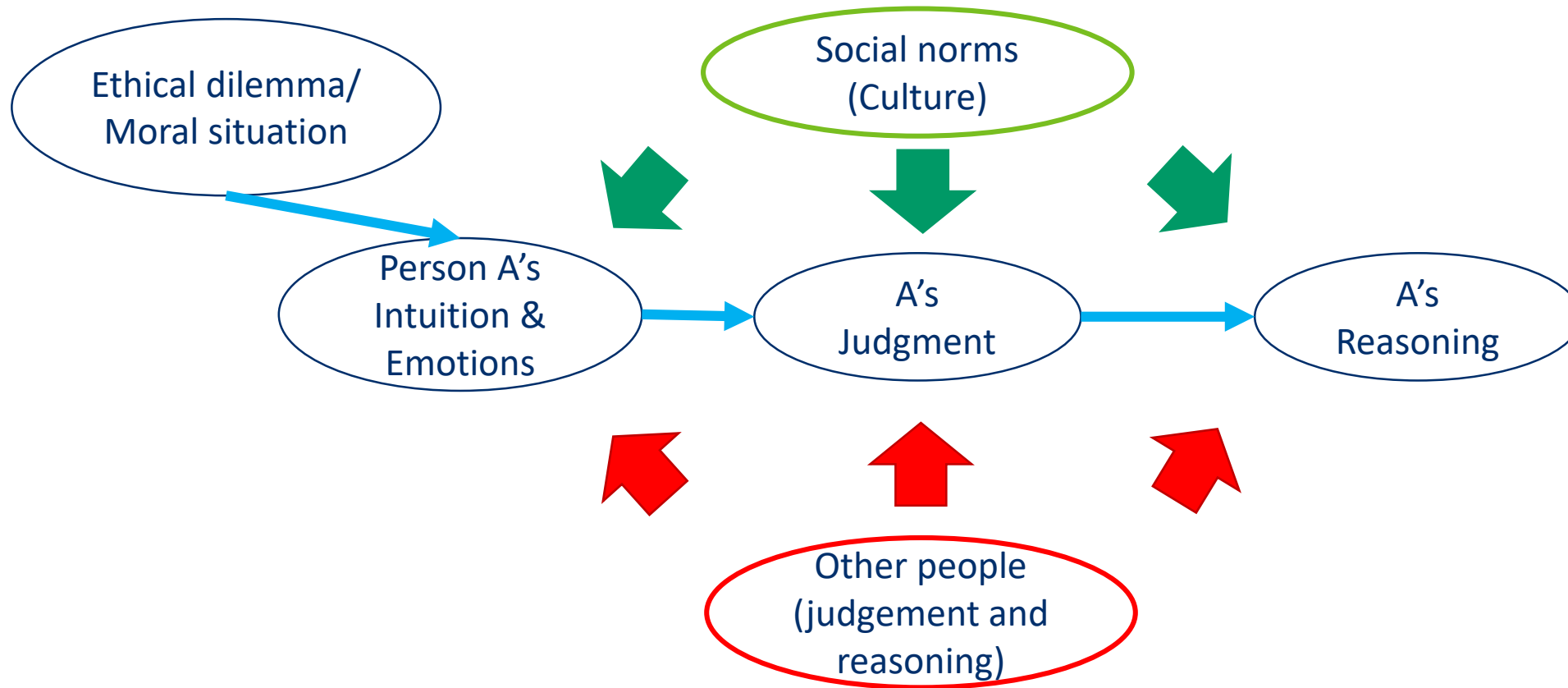
Haidt, J. (2001). The emotional dog and its rational tail: A social intuitionist approach to moral judgment. *Psychological Review*, *108*(4), 814–34.

IMPLICATIONS…

- ***Emotions*** often precede judgments about what is right (or wrong)
  - Some emotions are likely to affect ethical and responsible behaviours

- ***Social*** influence matters
  - Peer pressure and org. culture also influence moral judgments and behaviors
  - Ethical behaviors may require socialization

- EDM is often a ***social-intuitionist*** process
  - Swift and effortless
  - Compared to slow & effortful rational cognitive process

Haidt, J. (2001). The emotional dog and its rational tail: A social intuitionist approach to moral judgment. *Psychological Review*, *108*(4), 814–34.

HOW AI TRANSFORM OUR LIVES?

Dr. Dorothy Chau, CIPM

Tencent Finance Academy (HK)

WHAT'S A.I. FROM WHAT YOU HAVE SEEN/EXPERIENCED?

AMAZONGO

WHAT THE AI INDUSTRY IS DOING TO PROTECT YOUR DATA?

FEDERATED LEARNING
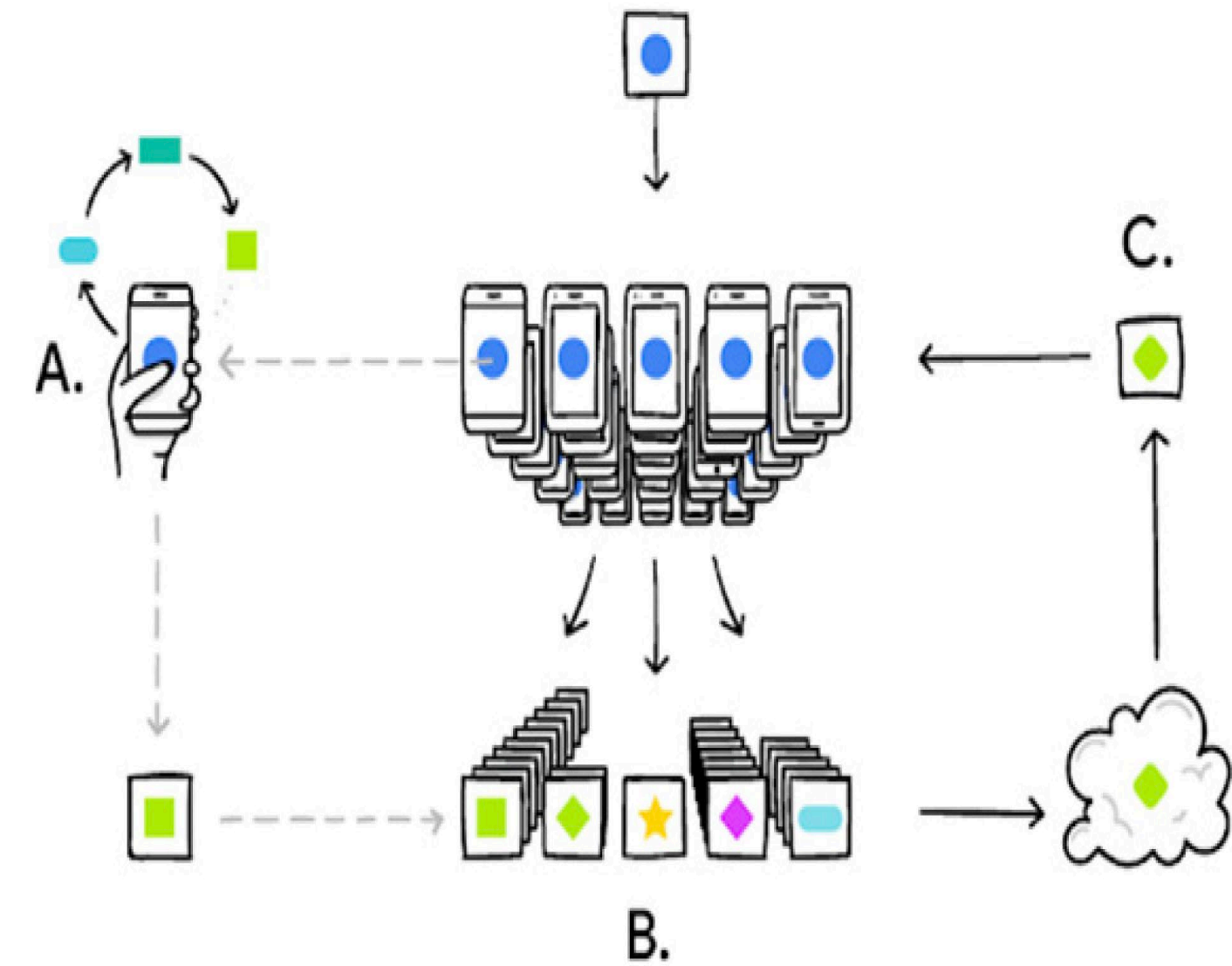
HOW AI HAS TRANSFORMED DIFFERENT INDUSTRIES?

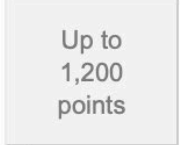# RISK ASSESSMENT.

Credit Scoring: Sesame Credit

WHAT IS THIS ABOUT?

AIA Vitality is a game changing wellness programme which redefines the traditional concept of insurance, aims to reward you to live a healthy lifestyle.

Purchase a selected AIA Vitality insurance product and be an AIA Vitality member[1] to receive an instant 10% premium discount or get 10%[2] extra cover[3] , plus an array of rewards and discount offered by our partners.
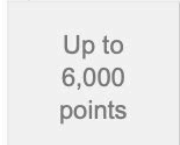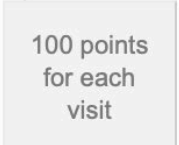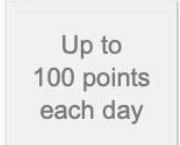
Simply by being active in daily life and having a healthy diet, you can earn points and upgrade your status for more offers and rewards.

https://www.aiavitality.com.hk/vmp-hk/points_and_status/earn_points

How to Earn AIA Vitality Points

You can earn AIA Vitality Points by doing healthy activities. The points you earn determine your AIA Vitality Status and level of rewards!

Know Your Health

1,000 points	Up to 6,000 points	Up to 1,200 points
AIA Vitality Health Review	AIA Vitality Health Check	Mental Wellbeing Assessments

Improve Your Health

Up to 6,000 points	100 points for each visit	Up to 100 points each day
Achieve Your Goals	Partner Gym Visits	Fitness Devices

AUTOMATE
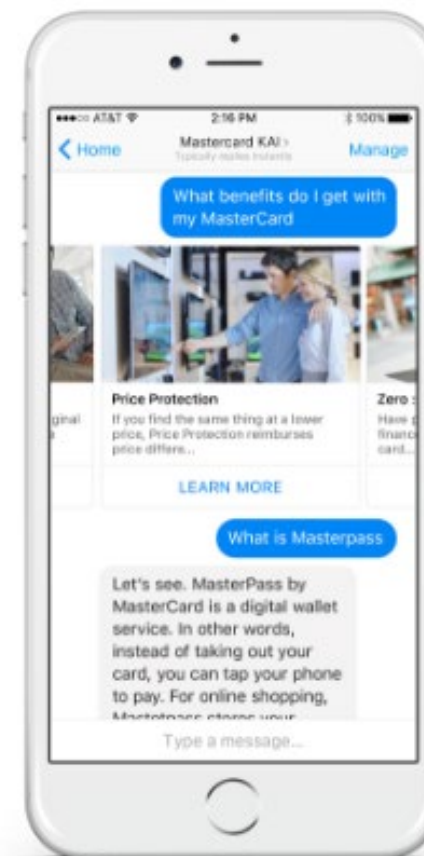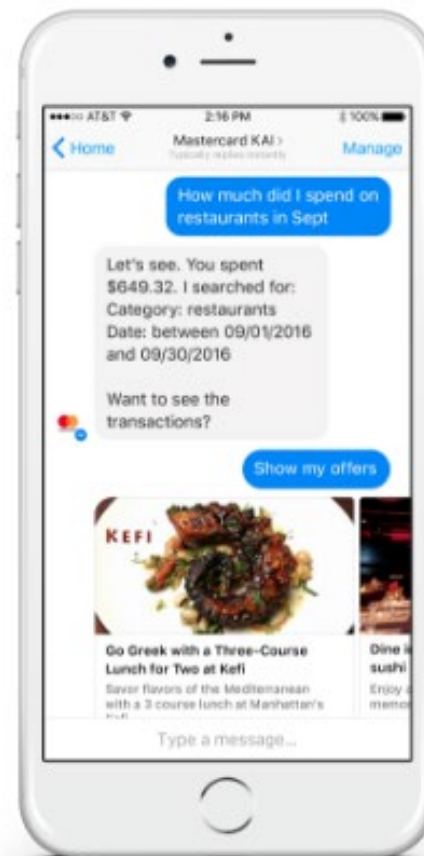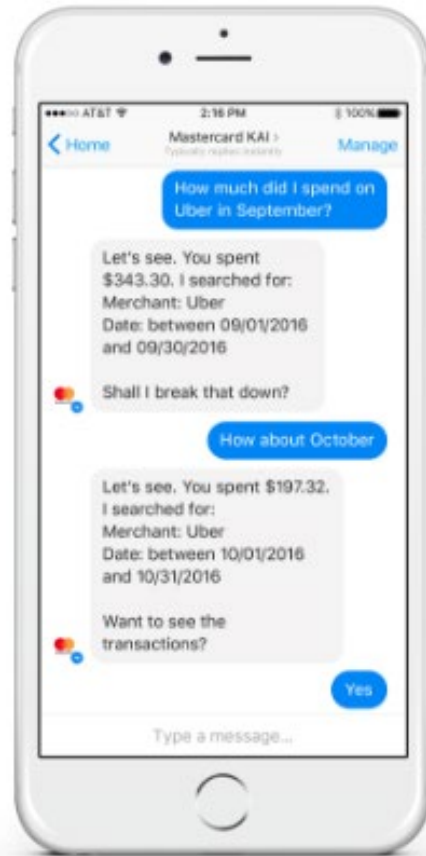
SMARTER HOME INSURANCE

https://neos.co.uk

Wearable or personal technology, sometimes called "fit tech"	Sensors on objects – personal and commercial vehicles and shipping containers	Location-based sensors in factories, warehouses, offices and homes – "smart" thermostats, alarms and cameras	Geographic information systems and satellites providing geophysical, topographical, climatological and hydrological data

The ability to directly access customer data via the IoT is a new phenomenon for insurers that have traditionally relied on brokers.

Dan, Neos: Hello Jess. A Neos sensor has detected a leak in your kitchen? Are you at home?

Jess, Stratford: I'm not home, please call my neighbour Tim - he has a key.

Dan, Neos: Tim checked, looks like a pipe under the sink sprung a leak. The water is off now.

Jess, Stratford: Thank you.

Dan, Neos: Would you like us to arrange for an approved plumber to fix the leak? All costs are covered up to £1000

Neos Customer Service

CLAIM IN 3S?

https://www.lemonade.com   https://www.lemonade.com/claims

How Lemonade Claims Work

Seamlessly file claims from your phone - anytime, anywhere

Tap the 'Claim' button in the Lemonade app

Tell us what happened

Our AI runs 18 anti-fraud algorithms

If your claim is **instantly** approved, our AI will pay you in 3 secs

Otherwise, our AI hands over your claim to our devoted team of **humans** to handle ASAP
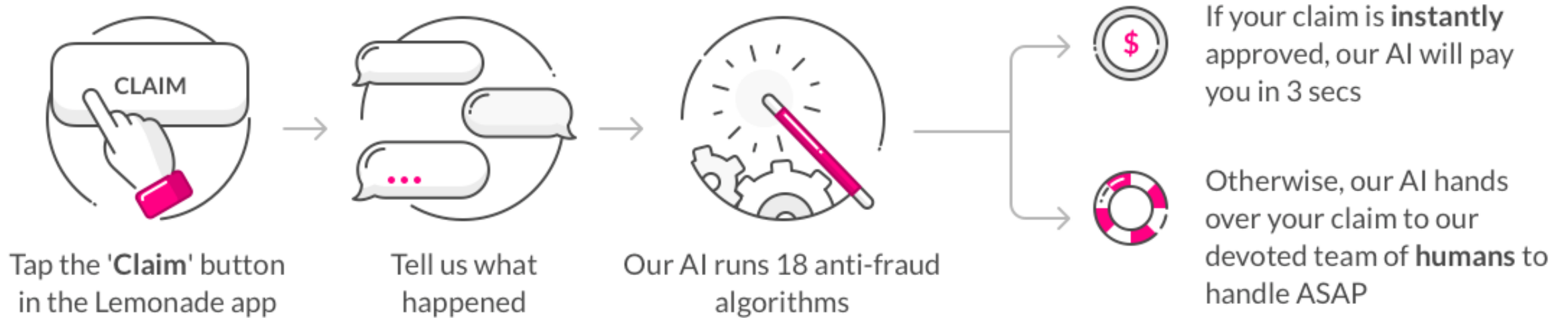
ROBO-ADVISOR

- Utilises automation to reduce the human labor needed for processing trades and, in turn, allows users to conduct transactions for free

- Free Trading

- Simple Interface

https://www.robinhood.com

robinhood — User Growth

eTORO: COPY TRADER

DIGITAL CONTACT TRACING: BIG BROTHER IS WATCHING?

AI & ETHICS?

Application of AI to resolve ethical issues.

The unethical AI - Sources of ethical risks?

How AI can be ethically "tamed:?

What lies ahead in the near future?

Justin Ong, CFA

CFA Society Malaysia

APPLICATION OF AI IN RESOLVING ETHICAL ISSUES

TrueVoice is a scalable, voice analytics platform which leverages artificial intelligence to enable you to listen to what your customers are saying and understand how your customers are thinking and feeling across every conversation, which reduces regulatory risk and delivers improved customer outcomes
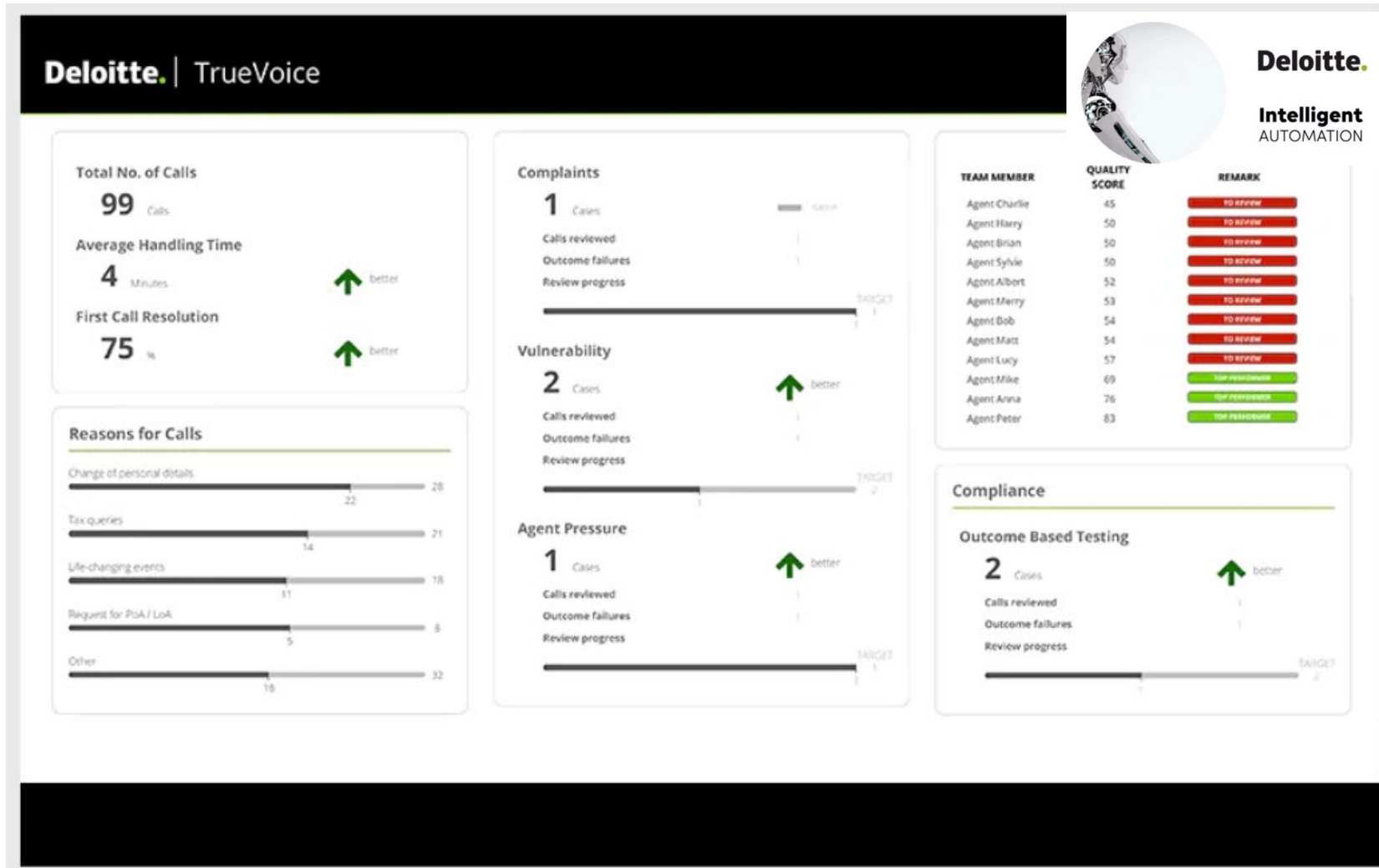
Reduce risk
Monitor all customer interactions to enhance regulatory compliance and reduce risk, ensuring you protect your most vulnerable customers.

Transform customer experience
Empower call agents to deliver an enhanced customer experience by helping to better understand customers.

Deliver efficiencies
Optimize key call center processes to lower operational costs.

Improve customer satisfaction
Benchmark all interactions to promote consistent outcomes for all customers.

• In the news...

CIO Corner: Cloud Security in the Era of the Data Breach

By Sam Bleiberg
@samblelberg

2,429 views | Feb 26, 2019, 08:47am
74% Of Data Breaches Start With Privileged Credential Abuse

Louis Columbus Contributor ⓘ
Enterprise & Cloud

TECH 25/03/2016 1:19 AM AEDT | Updated 29/03/2016 3:53 AM AEDT
Microsoft Chat Bot Goes On Racist, Genocidal Twitter Rampage

Seriously? Seriously.

By Damon Beres

Tay.ai

MICROSOFT VIA TWITTER

Here's a clear example of artificial intelligence gone wrong.

WIRED

KLINT FINLEY BUSINESS 06.18.16 04:30 AM
A $50 MILLION HACK JUST SHOWED THAT THE DAO WAS ALL TOO HUMAN

Opinion **Artificial intelligence**
Robots that replicate human bias are enemies to diversity

Those working on the technology have a fleeting opportunity to create an inclusive future

KRITI SHARMA + Add to myFT

COMPUTERS
Google working to fix AI bias problems

Just because artificial intelligence training data might show that doctors are often male, doesn't mean machine learning should assume that's the case.

BY STEPHEN SHANKLAND · MAY 7, 2019 5:57 PM PDT

BBC NEWS
CryptoKitties craze slows down transactions on Ethereum
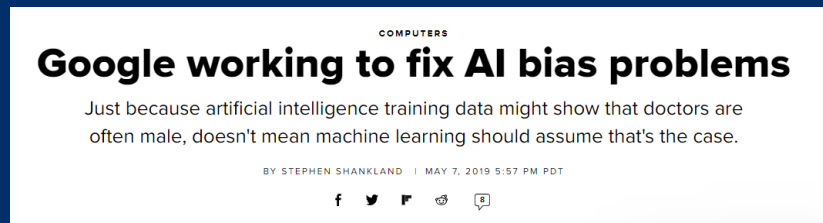
AI SYSTEMS MAY POSE DIVERSE ETHICAL RISKS

BIAS AND DISCRIMINATION

LACK OF TRANSPARENCY

EROSION OF PRIVACY

POOR ACCOUNTABILITY

WORKFORCE DISPLACEMENT AND TRANSITIONS

FUTURE AI ETHICS: CONSENSUS ON THE AI ETHICAL PRINCIPLES

Various organizations around the world have stepped up to produce guidelines on AI ethics. Regardless of their origin, they share the same 11 AI ethical principles, ranging from Transparency to Solidarity.

Université de Montréal
Montréal Declaration: Responsible AI

Engineering and Physical Sciences Research Council UK (EPSRC)
Principles of robotics

Federal Ministry of Transport and Digital Infrastructure, Ethics Commission
Automated and Connected Driving: Report

Japanese Society for Artificial Intelligence
The Japanese Society for Artificial Intelligence Ethical Guidelines

Government of the Republic of Korea

National Science and Technology Council
The National AI Research and Development Strategic Plan

Ministry of Economic Affairs and Employment

French Data Protection Authority (CNIL)
How can humans keep the upper hand? Report on the ethical matters raised by AI algorithms

National Institute of Transforming India

Department of Innovation & Science

Personal Data Protection Commission Singapore
Discussion Paper on AI and Personal Data – Fostering Responsible Development and Adoption of AI

Beneficence

Transparency

Freedom & Autonomy

Justice, Fairness & Equity

Trust

Non-maleficence

Sustainability

Responsibility & Accountability

Dignity

Privacy

Solidarity

FUTURE AI ETHICS: THE TOP 5 AI ETHICAL PRINCIPLES

AI builds its "brain" with historical data, not explicit rules.

Its "brain" is often treated as a "black box", where even the AI Engineers may not know every justification to an AI decision.

How can we know that an AI is correct?

Historical data produced by humans includes our past poor decisions, made with biasness and bad judgement.

An AI is only as powerful as the data that trains it. With flawed, biased and unfair data, the AI learns from our past mistakes and creates an imperfect "brain".

How can we know that an AI is fair?

We decide what an AI's goal is – to help or to harm.

AI is powerful, it can be used for good like improve profits, produce business insights and automate tasks OR it can be used for evil like incite cyberwarfare and create weaponized AI. You choose.

How can we ensure that we create an AI that is for the greater good?

We make AI, but AI makes its own decisions.

Uncleaned data or new unforeseen situations may cause the AI to arrive to a misleading decision.

If a mistake were to be made, who is accountable – the AI or the owner?

We decide what type of data is collected to train the AI's brain.

Personal data can be sensitive, we need to ensure that they are protected, anonymized or obfuscated.

With more data being collected, how can we ensure that one's privacy is not violated?

Transparency

Justice, Fairness & Equity

Non-maleficence

Responsibility & Accountability

Privacy

INTELLIGENT AUTOMATION RISK AND CONTROL FRAMEWORK

A strategic approach to intelligent automation risk management prepares for securely scaling

Risk and Control Framework

Business Objectives					

Stakeholder Buy-In	Effective Prioritisation	Benefits Realisation	Controlled Development	Risk and Compliance	Delivery at Scale

Center-of-Excellence
The organisational structure to provide strategy, governance and management of automation environments

Operating Model Components

Organisational Engagement	Planning & Alignment	Policies & Standards	Governance & Oversight	Controls & Procedures	Change Management & Culture
The programs and methods for engaging the workforce in automation opportunity identification and collaboration	The methodologies and processes to effectively identify, value, prioritise, and align on automation opportunities	Expectations for the development, management, and risk mitigation of automation technologies	The organisational structure, committees, and roles & responsibilities for managing automation environments	Processes to manage 1st ("operations and risk management") and 2nd ("risk oversight") Lines of Defence	Strategy, communication, engagement and training to promote an automation augmented workforce

Risk Categories

Algorithmic Risk, Operational Risk, People Risk, Regulatory Risk, Financial Risk, Strategic Risk, Technology and Cyber Risk

Key Focus Areas

Automation Lifecycle	Governance	Business Process

AI AND ETHICS SOLUTIONS: GOVERNANCE

- As with any disruptive technology, there will be an absence of governance surrounding it during the adoption phase. However, the relevant laws and governance needs to be set up as quickly as possible to mitigate any risk of unethical behaviors from people looking to exploit or take advantage of such absence.

- Seeing as AI has already been adopted across multiple countries in numerous organizations, country governments has already established and pass several laws surrounding the implementation of AI systems. Analysis of these laws revealed that several key principles are very important to consider when implementing an AI system.

Others

Other principles include Trust, Sustainability, Dignity, Solidarity

Privacy

Naturally, privacy remains a significant importance especially when involved with processing a massive amount of data and requires tight monitoring and governance surrounding its usage and handling.

Accountability and Liability

A clear guideline towards identifying the party responsible for the AI decisions should be clearly defined. It may not necessarily be human, but rather a collective party owning up to the consequences.
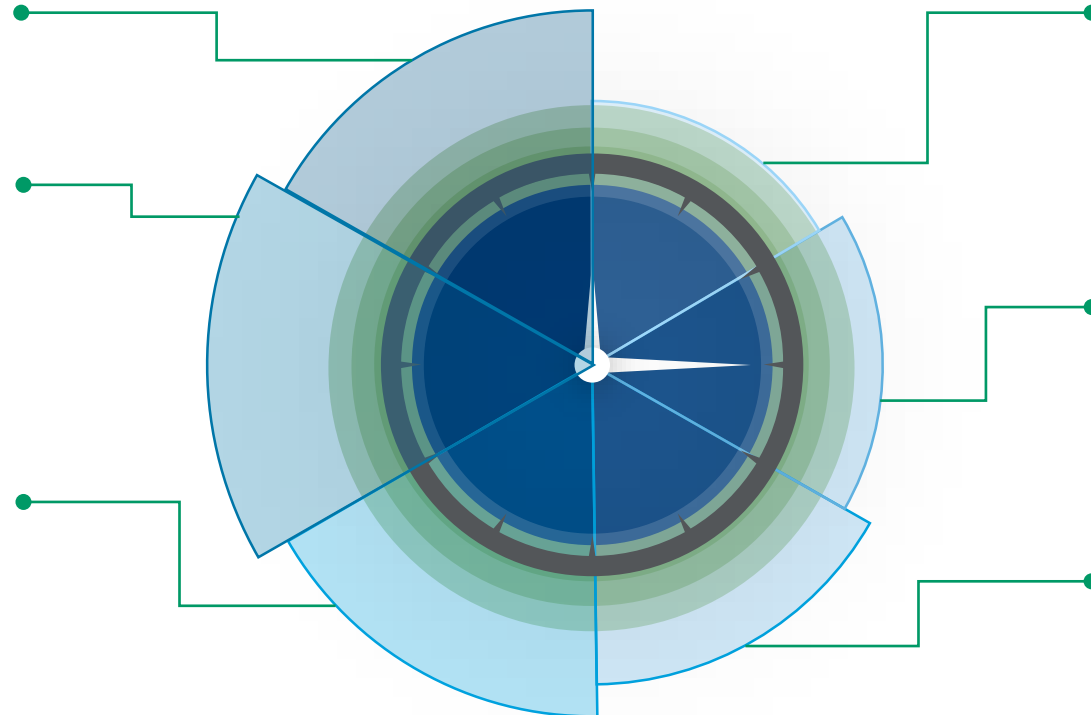
Transparency

Disclosure of information relating to how the AI system reach a particular decision. A complete audit trail should be generated, allowing analysis to be done, for system improvements as well as investigations.

Equality and Fairness

Decisions must not discriminate against irrelevant factors based on fallacies or unfounded biases. The learning of the system needs to be monitored to prevent AI Bias, which occurs when data is unreasonably skewed.

Safe and Secure

The system should be well-guarded against most attempts of cracking and tampering, either directly by hacking, or indirectly by feeding in skewed or inaccurate data into the system.

AI AND ETHICS SOLUTIONS: LAW ENACTMENTS

As previously mentioned, there are several laws already in place in several countries with regards to the adoption and implementation of AI systems. Below are some examples of enacted laws:
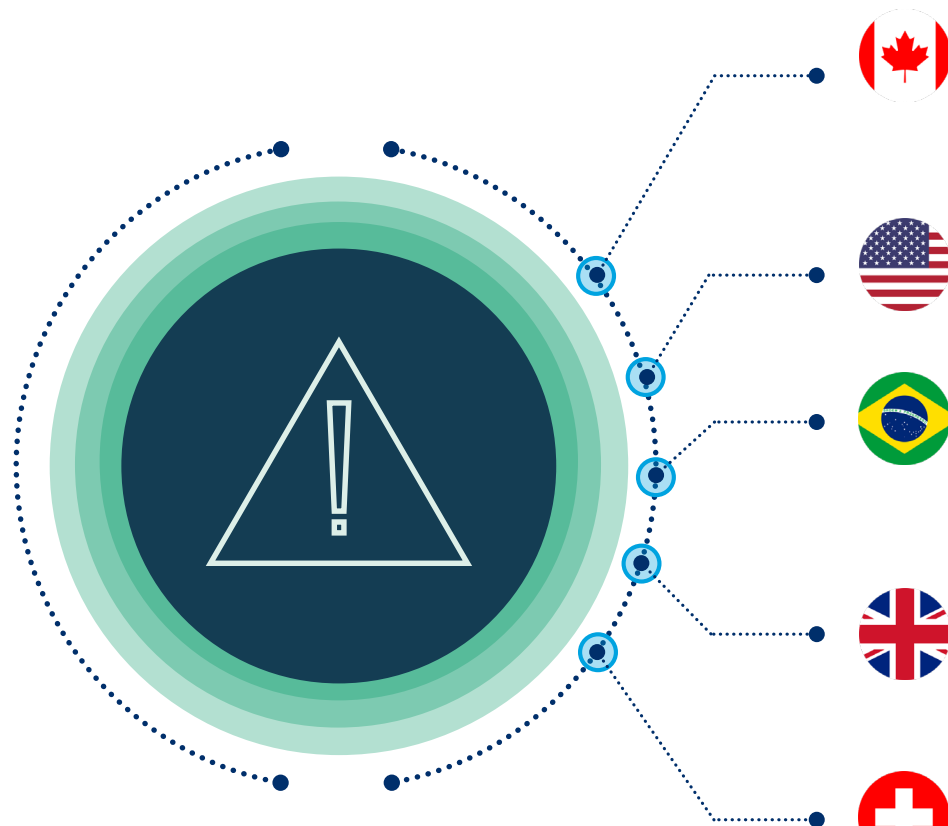
Canada

On May 24, 2018, the Office of the Privacy Commissioner of Canada published two guidance documents, one on obtaining meaningful consent and the other on inappropriate data practices, to help organizations ensure they comply with their privacy obligations in the digital age.

United States of America

Section 238 of the John S. McCain National Defense Authorization Act for Fiscal Year 2019 directs the Department of Defense to undertake several activities regarding AI.

Brazil

On August 14, 2018, Brazil enacted Law No. 13,709, the General Data Protection Law, which aims to give more security to consumers of technology. Article 1 of the Law provides for the processing of personal data by either a natural person or a public or private legal entity.

United Kingdom

In November 2018, the CDEI was established, where one of its formal terms of reference includes "(iii) "publishing recommendations to government on how it can support safe and ethical innovation in data and AI through policy and legislation".

Switzerland

In September 2018, Switzerland published its "Strategy Digital Switzerland," which sets out goals for the coming two years. Furthermore, it is tasked with developing "recommendations for a transparent and responsible use of AI" by the middle of 2019.

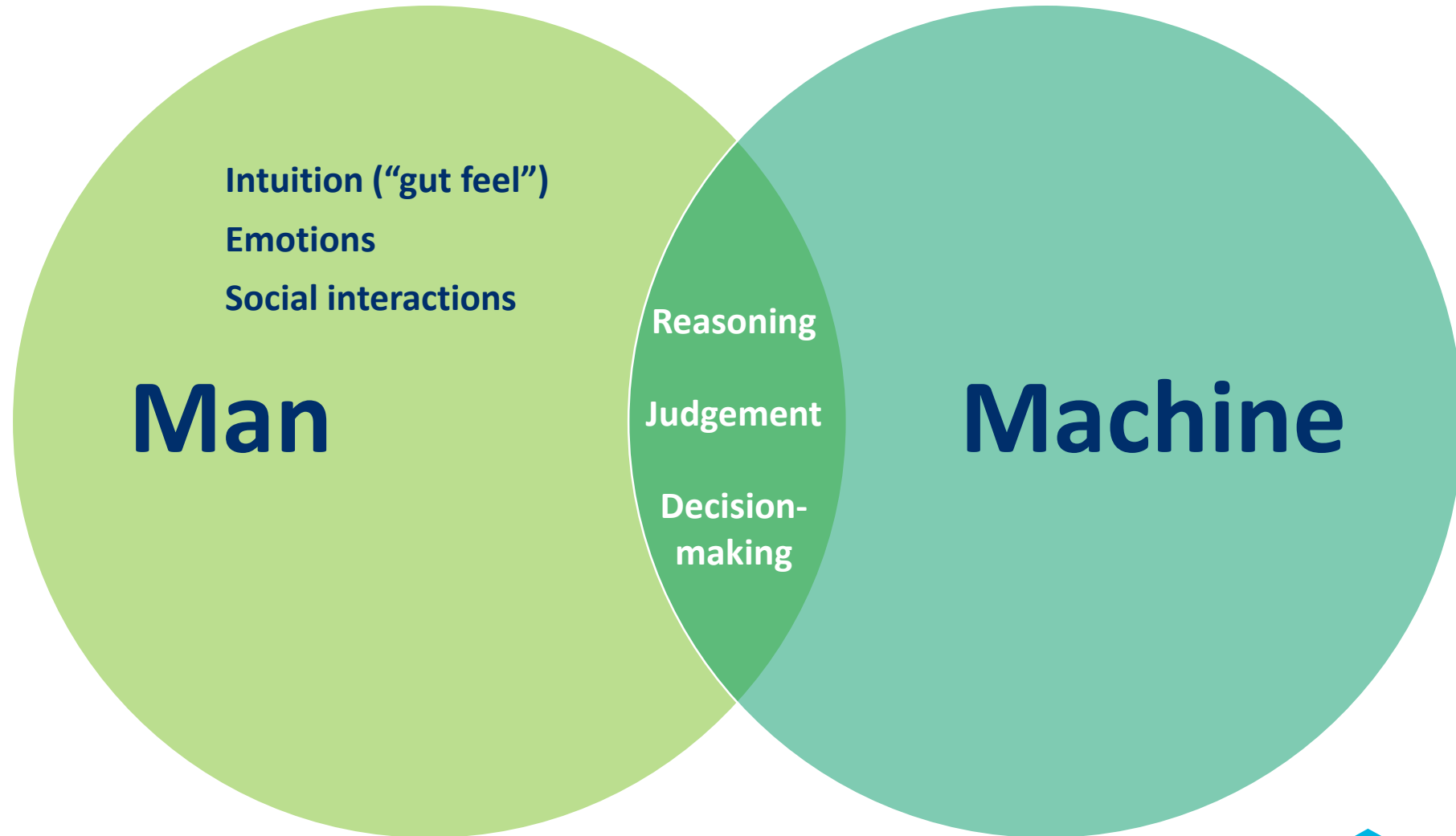# CAN MACHINES BE ETHICAL?

What differentiates man from machine?

Revisit: What constitutes the ethical process?

Laurel Teo, CFA

CFA Society Singapore

ETHICS IN THE A.I. CONTEXT

From a ***behavioural*** (ground-up) perspective

- What do the numbers tell us?

GLOBAL NEWS ON A.I. SHIFTING TO ITS ETHICAL USE

- 7 large A. I. ethics themes in 2019
  - Sources: 60,000 English news sources & >500,000 A.I. ethics blogs

Theme	% of Coverage
Framework/Guidelines	32
Data Privacy	14
Facial Recognition	13
Big Tech Advisory	11
Algorithm Bias	11
Robotics/Driverless Car	9
A.I. Transparency	6.7

"The A.I. Index 2019 Annual Report", Human-Centered AI Institute, Stanford University

WHAT DO PEOPLE REALLY CARE ABOUT? *Empirical research shows...*

DATA PRIVACY

Consent
- Does data subject know? Does she or he consent?

Type
- What sort of data is being collected?

Purpose & Use
- What is it used for? How will it be used?

Collection & Handling
- Who's collecting and handling the data?

Storage
- How will the data be stored and protected?

FAIRNESS/JUSTICE

Distribution	Procedure	Interaction
• *Outcome* • What am I getting? • Aligns with expectation and agreed concept, e.g. equity, equality • Example: How much is my bonus?	• *Process* • How was distribution determined? • Consistency • Accuracy • Transparency • Voice and representation • How was my bonus decided?	• *Treatment* (of people) • Candidness • Sensitivity • Dignity • Respect • Care & concern • How did my manager discuss my bonus with me?

DOES A.I. HELP OR HURT ETHICS?

- It all depends on how A.I. is used

- Can we safeguard or strengthen **privacy**?
  - Consent ensured
  - Proper handling and usage
  - Access and storage (safety and security of data)

- Can we uphold or improve **fairness**?
  - *Distribution* (bias/discrimination)
  - *Procedure* (transparency, voice, consistency, accuracy)
  - *Interaction* (care, concern, dignity, respect, effort to explain rationale)

Deloitte.

THANK YOU