

# Data, Trust and Responsibility: the cutting edges of the world's most valuable asset class

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PAUL VALLÉE, FOUNDER AND CEO

April 11, 2018

Pythian<sup>®</sup>  
love your data

DATABASES, BIG DATA,  
DATA INTEGRATION,  
MACHINE LEARNING,  
CLOUD



DATA  
ENABLEMENT

DEVOPS, CLOUD, DATA,  
ARCHITECTURE AND  
PLATFORMS



SOFTWARE  
VELOCITY

DATABASES,  
INFRASTRUCTURE  
MANAGEMENT, CLOUD



RELIABLE,  
SCALABLE IT

## TECHNOLOGY AND KNOWLEDGE DRIVE OUTCOMES

Pythian experts use their knowledge and expertise and the most secure service delivery systems to deliver measurable results.

# PAUL VALLÉE

- Founder (1997) & CEO of Pythian
  - Member, Canadian Council of Innovators
  - Women in Communications and Technology Diversity Champion, 2016
  - Board of Directors, Basic Income Canada Network
- 
- // Utopian // Technophile // Futurist // Feminist //
  - // Entrepreneur // Inventor // Businessperson //



T E H A M A

*Transforming* the way IT works.

# A **better way** to connect and engage your remote workforce.

The *Tehama Room* provides a shared environment with secure access controls to standardize — and dramatically simplify — the way you engage IT providers and third parties.

## **The result?**

The *safest way* to get your people to work, is now the *fastest way*.









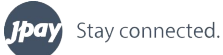















**Rapidly onboard** workers with a productive virtual workspace in as little as 1 hour thanks to business connectivity automation.

**Reduce complexity** and associated risks with managed endpoints giving you complete visibility over operations.

**Ensure compliance** with easy auditing access to real-time user desktop sessions, activity logs and video recordings.

Invest in **better collaboration** practices with encrypted container environments purpose-built for IT work and needs.

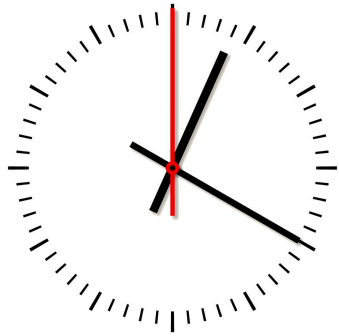
# DIVERSIFIED, BLUE CHIP CLIENT BASE

Media/Information Services	Retail	E-commerce	SaaS	Financial Services
	<p>SONOS</p>			
	<p>URBAN OUTFITTERS</p>		 Stay connected.	<p>COMMERZBANK </p>
			 love your event software	<p>MIZUHO </p>
	<p>RENTTHERUNWAY love. wear. return.</p>	<p>ideeli</p>		<p>السوق الفرنسي كابيتال Saudi Fransi Capital </p>
	<p>ALLSAINTS</p>			
		<p>rockyou</p>		<p>Paymentus</p>

# DATA



# DATA: RISK AND REWARD INCREASING EVERY DAY





Our data is valuable. Here's how we can take that value back

*Francesca Bria*

Silicon Valley's surveillance capitalism isn't working. But Barcelona shows that citizens' data can generate public value

The Guardian view on Google and Toronto: smart city, dumb deal

*Editorial*

Google's offer to redevelop the Toronto waterfront as a smart city of the future prompts the question: is Google's future the one that the rest of us want?

› thestar.com ‹

Opinion · Contributors

## The controversy over Google's futuristic plans for Toronto

It's clear that tech companies expanding into city planning puts at risk the core democratic principles of Canadian urban planning and city-building.



[https://www.theguardian.com/commentisfree/2018/apr/05/data-valuable-citizens-silicon-valley-barcelona?CMP=tw\\_t\\_gu](https://www.theguardian.com/commentisfree/2018/apr/05/data-valuable-citizens-silicon-valley-barcelona?CMP=tw_t_gu)  
<https://www.theguardian.com/commentisfree/2018/feb/05/the-guardian-view-on-google-and-toronto-smart-city-dumb-deal>  
<https://www.thestar.com/opinion/contributors/2018/01/31/the-controversy-over-googles-futuristic-plans-for-toronto.html>

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**DATA: OPPORTUNITY + ACCOUNTABILITY**

**ACCOUNTABILITY: PRIVACY**

# WHY DATA PRIVACY MATTERS

- It is integral to the right a person has to choose freely the circumstances and degree to which they are exposed to others, and not to be subject to arbitrary interference.
- It is a matter of ethical responsibility: The more access a company has to personal information the higher its responsibility to safeguard it.
- It matters to the law and more importantly to the companies Pythian does business with (and their customers).
- It is critical to Pythian business and what Pythian stands for. Pythian cannot be defined without necessary reference to “data” (and that includes personal information).



WOULD YOU IGNORE YOUR  
PRIVACY HERE?

SO WHY IGNORE IT HERE?

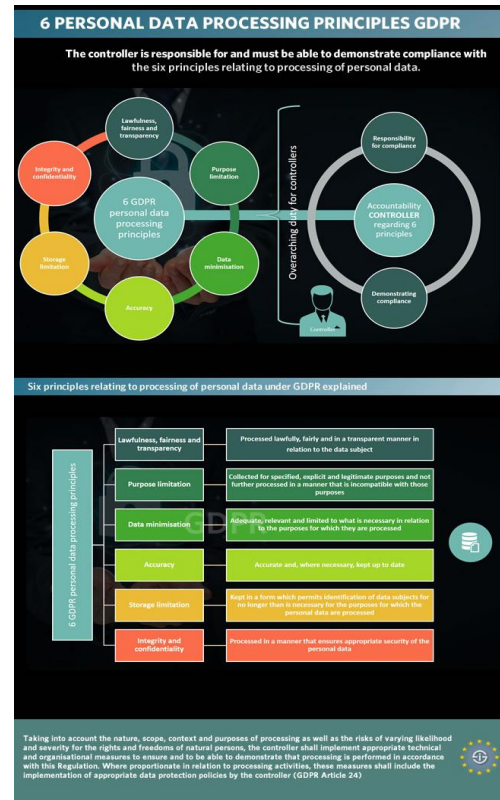
# GDPR – MAIN PURPOSES

- Give people more control over their privacy rights and increase protections for those rights:
  - Access and rectification
  - Data portability
  - Erasure (right to be forgotten)
  - Restriction of processing
  - Object to the processing
  - Not to be subject to a decision based solely on automated processing
- Strengthen obligations of controllers and processors
- Strengthen powers of supervisory authorities and penalties for non-compliance



# GDPR – PRINCIPLES

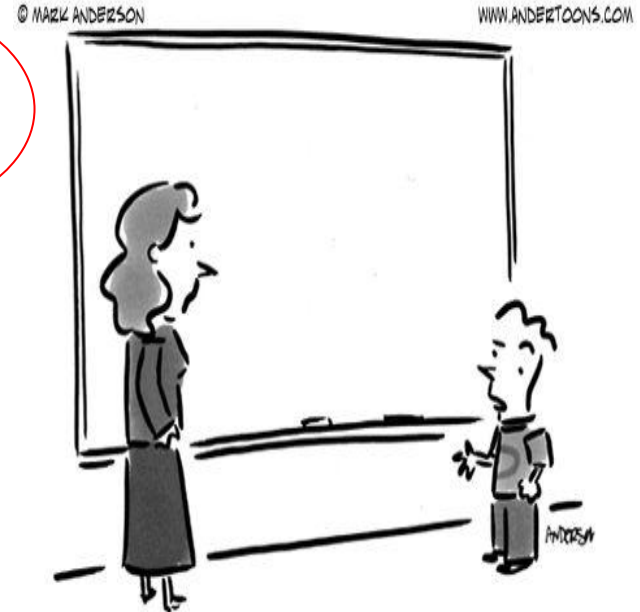
- Lawfulness, fairness and transparency : Privacy notice to inform individuals how Pythian collects, uses, retains and discloses their personal data.
- Purpose Limitation: Process data only for the purpose for which it was collected.
- Data minimization and proportionality: process only the personal data that is relevant and necessary for the purpose.
- Data quality and accuracy: processing includes complete and up-to-date personal data.
- Storage limitation: Retaining personal data only for as long as necessary to achieve the purpose.
- Data security: Implementation of appropriate technical and organizational safeguards. Examples are:
  - Privacy by design and by default (new technologies need to consider privacy built in as a by default feature) – E.g., pseudonymization, opt-in mechanisms.
  - Privacy Training and background checks.
  - Privacy Policies.
  - Security controls (encryption, passwords, anti-virus, firewalls, etc.)
- Accountability: Being able to demonstrate compliance with the principles.



Source: <https://www.i-scoop.eu/gdpr/data-controller-data-controller-duties/>

# PRIVACY: BEYOND GDPR

- Privacy compliance generates trust. When a Client grants Pythian access to their Personal Information, Pythian is committing to use that information in accordance with applicable law and with the contractual requirements imposed by the Client. Similarly, Pythian is agreeing to share the risks that the information be stolen, altered, or otherwise misused or accessed by unauthorized individuals.
- A data breach can be caused mainly by a malicious or criminal attack (including from insiders), a system glitch or human error (Source: Ponemon Institute, 2016).
- Cost of a data breach varies according to the cause and safeguards in place at the time of the breach.
- Pythian security safeguards are only as strong as its weakest employee. We need to work on developing a privacy culture where employees understand:
  - the value of the information
  - the value of the safeguards
  - the value of doing training and applying what they learn
  - the impact/consequences of not complying with the law and contractual commitments.



"Before I write my name on the board, I'll need to know how you're planning to use that data."

A white computer keyboard is shown from a high-angle perspective, lying on a white surface. A heavy metal chain is wrapped around the keyboard, and a large, weathered metal padlock is attached to it, symbolizing security and accountability. The keyboard keys are clearly visible, including function keys (F1-F8), alphanumeric keys, and navigation keys (arrow keys, Enter, Endg).

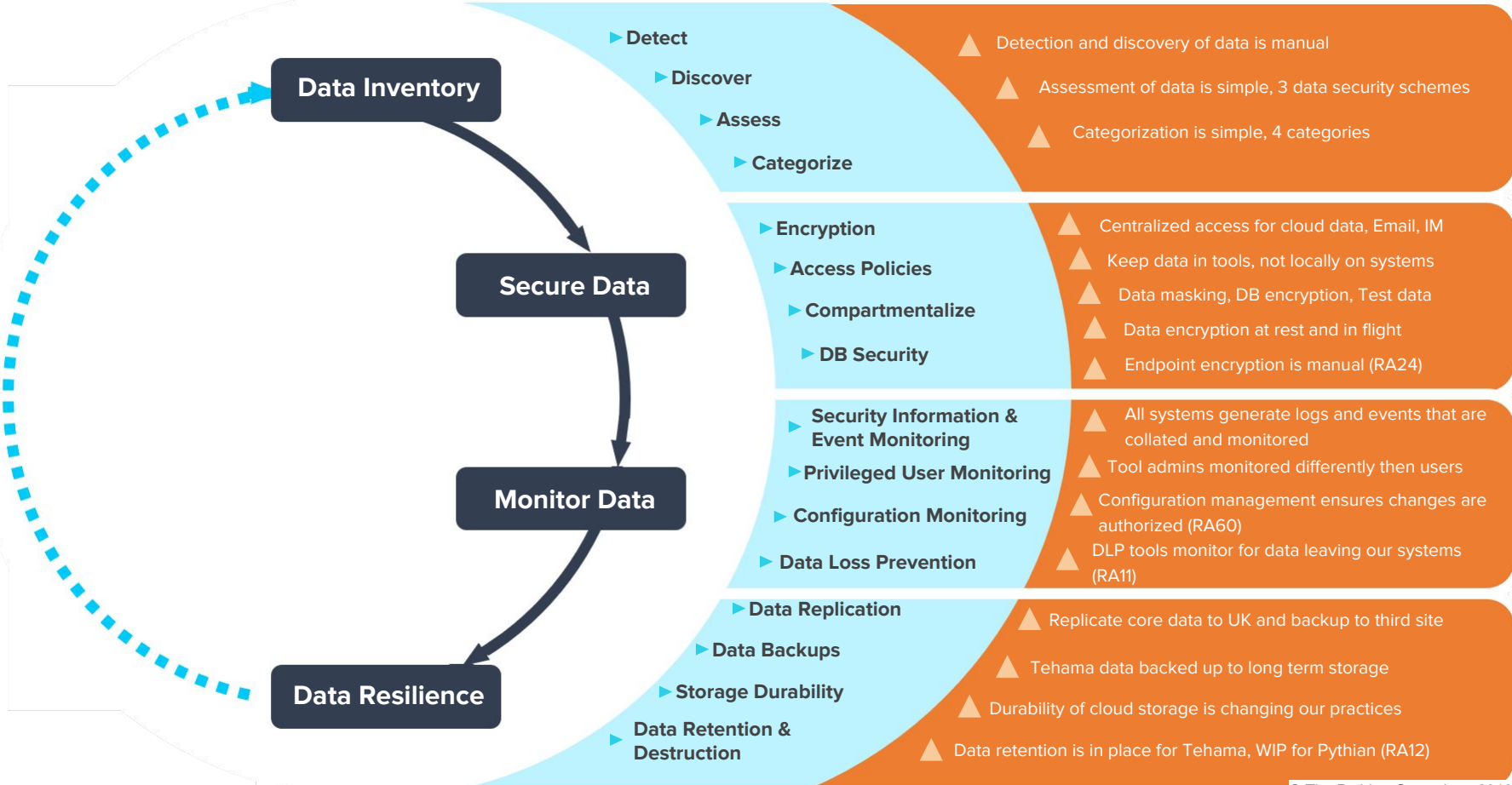
# ACCOUNTABILITY: SECURITY



# Data Security @ Pythian

## BEST PRACTICES

## PYTHIAN'S POSTURE



# Security Baseline Risk Assessment

## Pythian Confidential

**Security and Risk Management  
(Security, Risk, Compliance, Law,  
Regulations, and Business  
Continuity)**

Governance

GOV

RA1

Confidentiality, integrity, and availability concepts

Governance

SRM

RA2

Security governance principles

Governance

SRM

RA3

Compliance

Governance

SRM

RA4

Legal and regulatory issues - (Security related GDPR)

Governance

SRM

RA5

Professional ethic

Governance

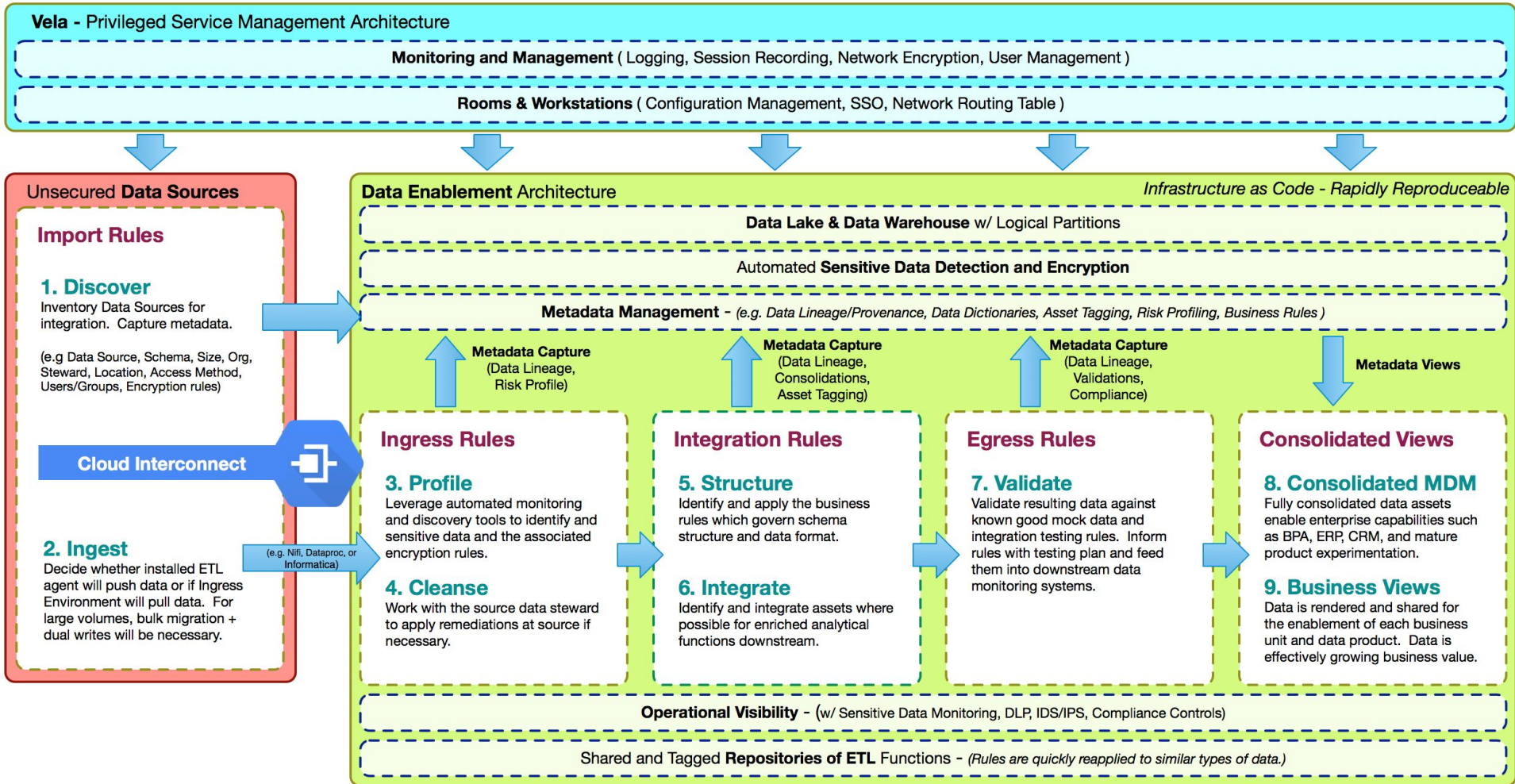
SRM

RA6

Security policies, standards, procedures and guidelines



# ACCOUNTABILITY: GOVERNANCE



Calculations per second per constant dollar

1E+09  
1E+07  
1E+05

MECHANICAL

RELAY

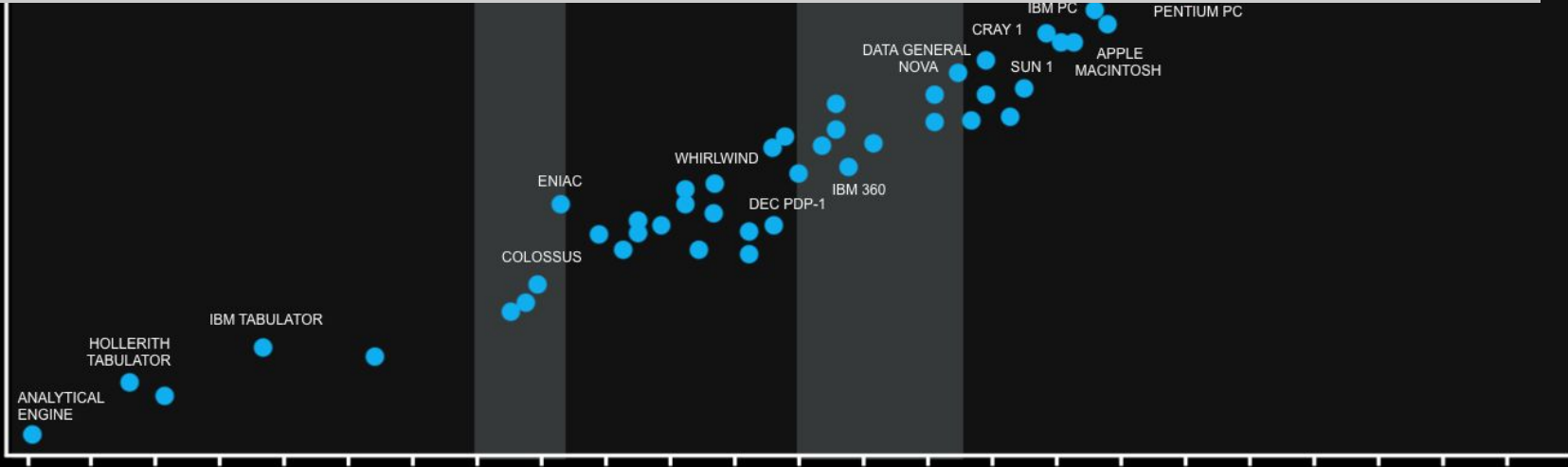
VACUUM  
TUBE

TRANSISTOR

INTEGRATED CIRCUIT

# OPPORTUNITY

10  
0.1  
0.001  
1E-05  
1E-07  
1E-09



# “We think the future of coding, is no coding at all” — Chris Wanstrath, Github

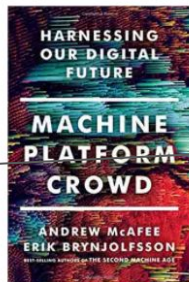
UD — You and McAfee write that AI is suddenly “over-delivering.” How is AI exceeding our expectations? And why haven’t we been prepared?

EB — There’s a specific change in the paradigm for how a lot of digital technologies and software have been developed. There’s a been a multitrillion-dollar industry based on us coding or codifying our knowledge — in coding what we know, and putting it into computer programs. If you write a tax preparation program or most other programs, you have to know exactly what you want it to do, step by step, and programmers write that

software to get the machines to do what they want. But a lot of problems can’t be specified by programmers that precisely because we don’t know how to write all the steps. In the second wave of the second machine age, machines are learning how to figure out the right steps on their own.

Machines do that by having lots and lots of examples of what works and what doesn’t work. “This is a cat.” “This is not a cat.” “This is fraud.” “This is not fraud.” Depending on the examples, they can learn how to solve those problems going forward.

People have been playing around with this for decades, but it’s just recently that there’s been a critical mass of improvements in computer power, data, and improvements to algorithms. Those three things have led to an inflection point where it’s really exceeded the expectations of a lot of the people who had been working on it.



.....  
The digital future, explained..

*“There’s a been a multitrillion-dollar industry based on us coding or codifying our knowledge — in coding what we know, and putting it into computer programs.”*

[...]

*“But a lot of problems can’t be specified by programmers that precisely because we don’t know how to write all the steps. **In the second wave of the second machine age, machines are learning how to figure out the right steps on their own.**”*



WE (URGENTLY) NEED TO CHOOSE



**UTOPIA**  
**DYSTOPIA**



**THANK YOU**

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**twitter @paulvallee**

**facebook.com/vallee.paul**

