

NOVA

IMS

Information
Management
School

From Data to Value in the Public Sector

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Transformação Digital

“ Transformação não é de novas tecnologias mas sim de transformar a sua organização para tirar partido das possibilidades...” ”

MIT Center for Digital Business

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Elements of digital transformation

Data-Driven Organizations

A maioria das organizações focasse
ou em criar propostas
de valor digitais ou em
modelos de operação

Integrate

Create

Enhance

Extend

Redefine

Reshaping the customer value proposition
The "what"

Decisores
necessitam da
informação certa
no momento
certo e no local
certo

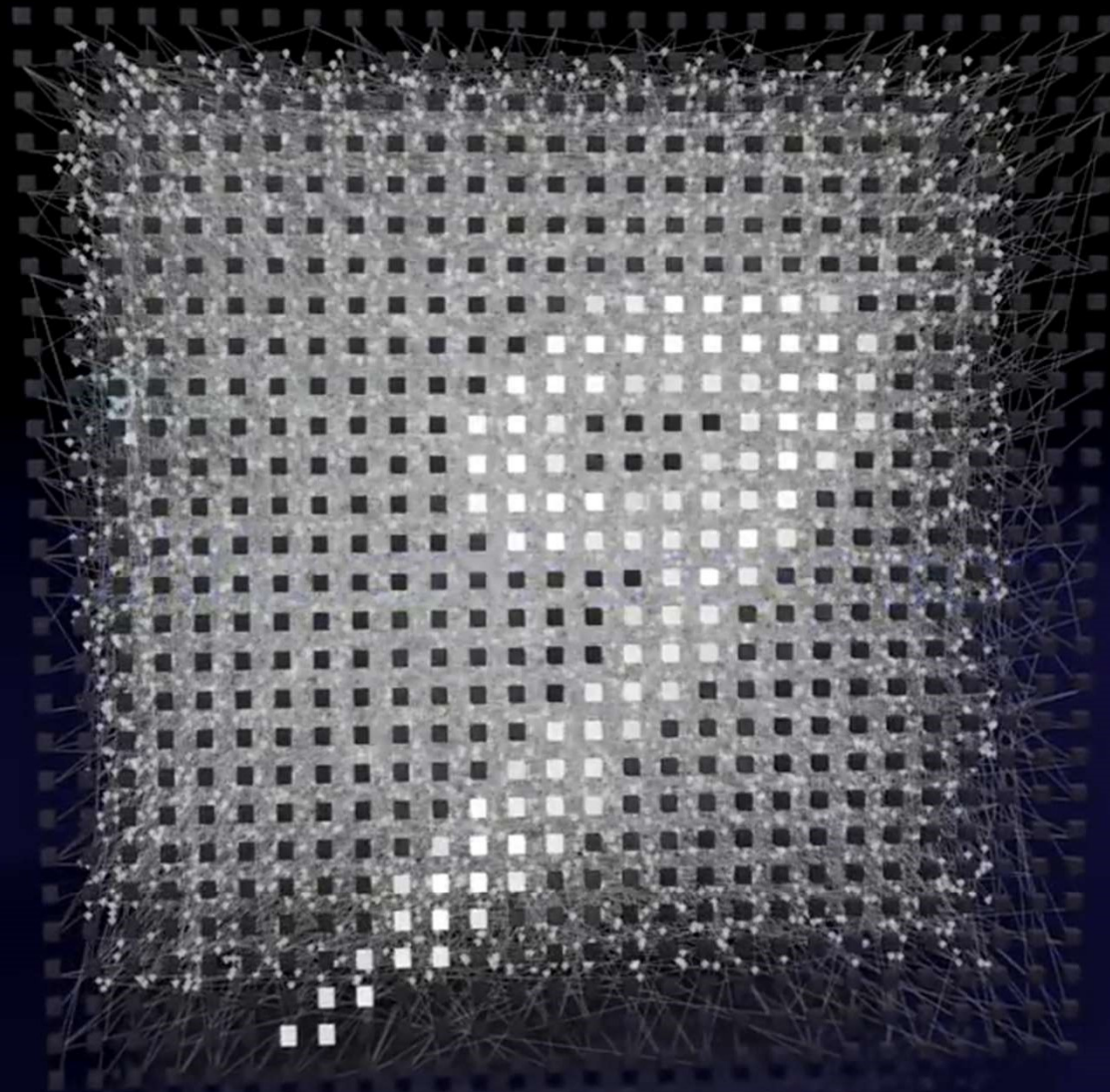


Artificial Intelligence

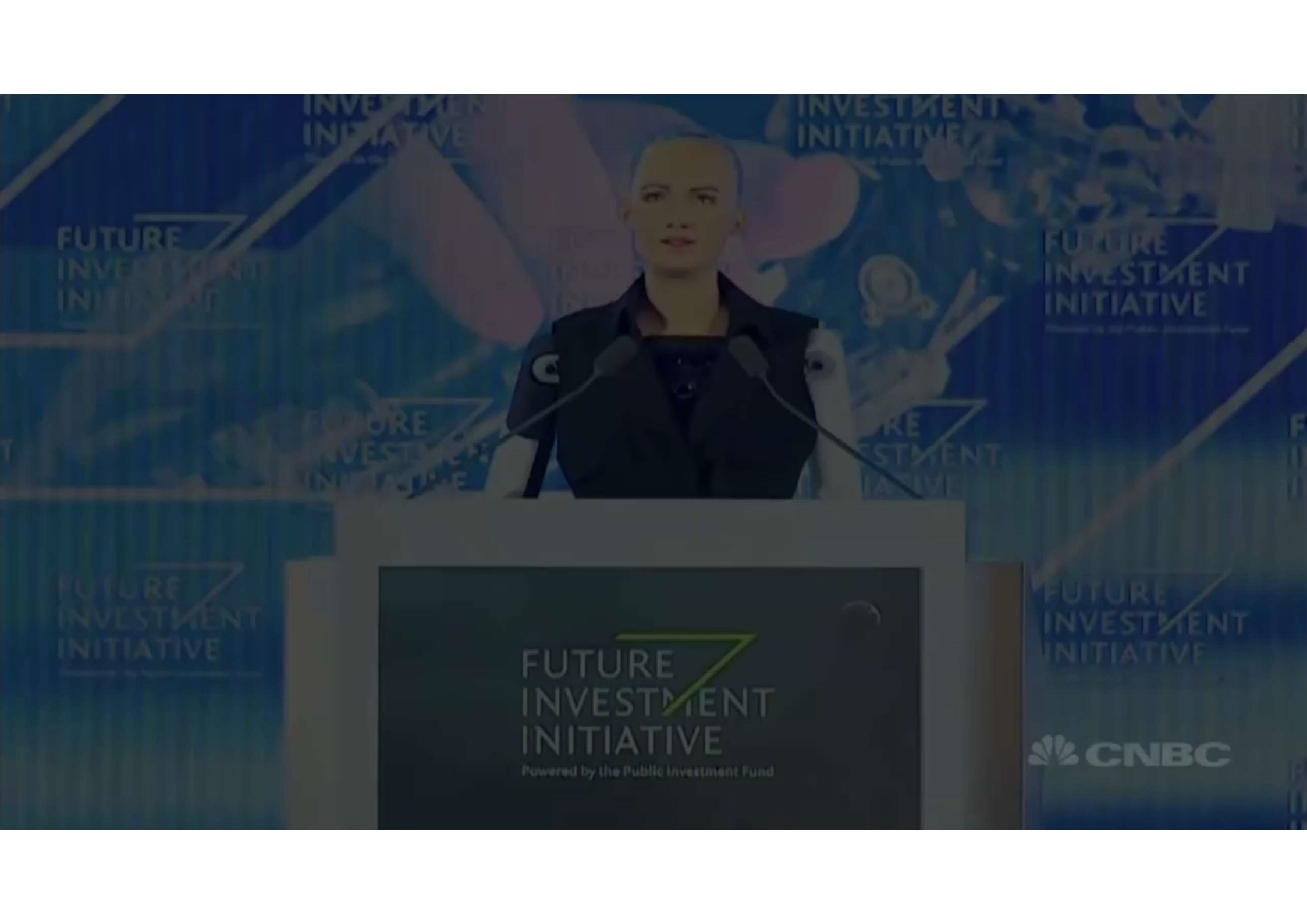
- Artificial intelligence is the programming of computers to do tasks that would normally require human intelligence.
- This includes the ability to understand and monitor visual/spatial and auditory information, reason and make predictions, interact with humans and machines, and continuously learn and improve.

Artificial Intelligence for Citizen Services and Government - Ash Center

https://ash.harvard.edu/files/ash/files/artificial_intelligence_for_citizen_services.pdf



www.cybercontrols.org



FUTURE
INVESTMENT
INITIATIVE

FUTURE
INVESTMENT
INITIATIVE

FUTURE
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INITIATIVE

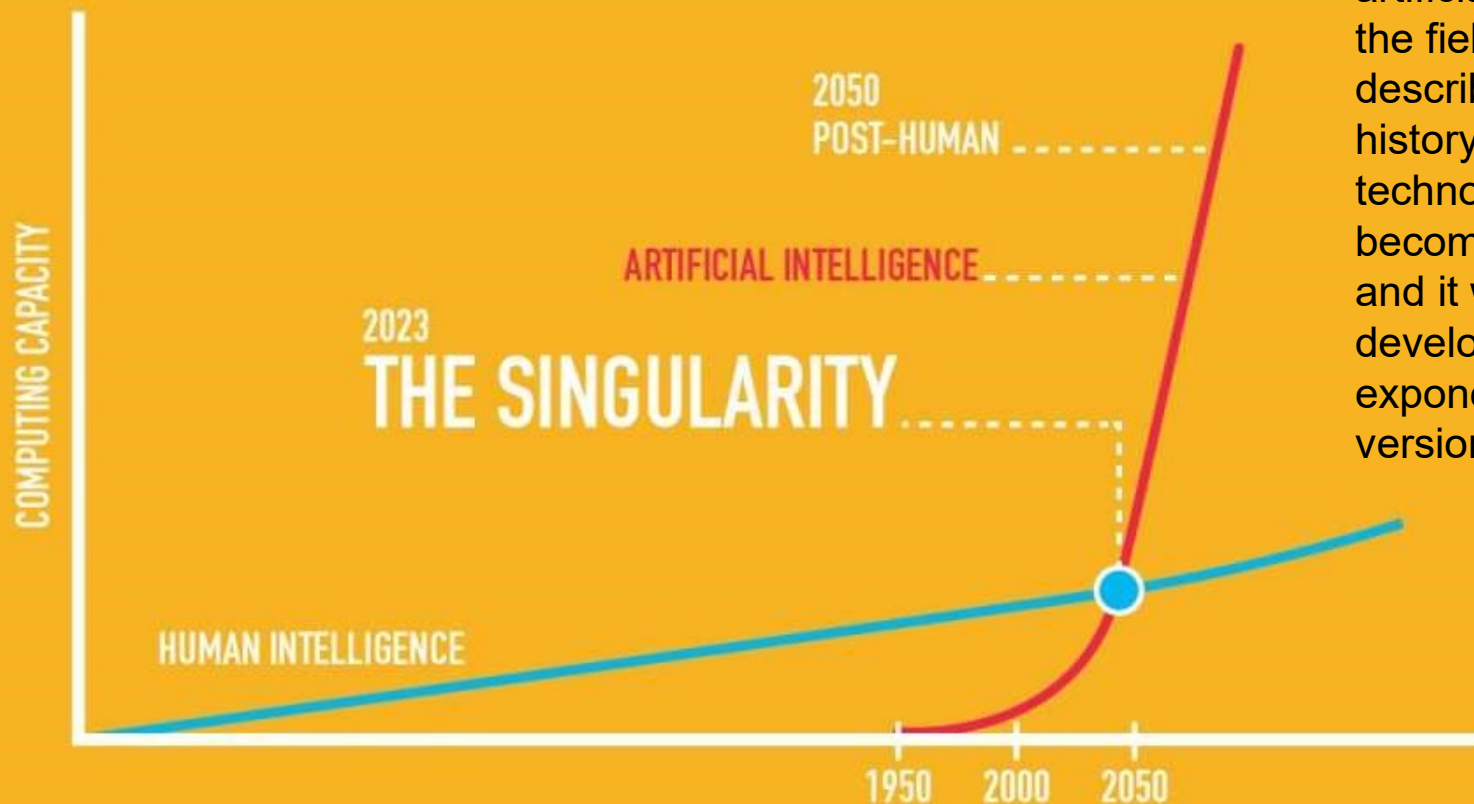
FUTURE
INVESTMENT
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Powered by the Public Investment Fund

FUTURE
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INITIATIVE

CNBC

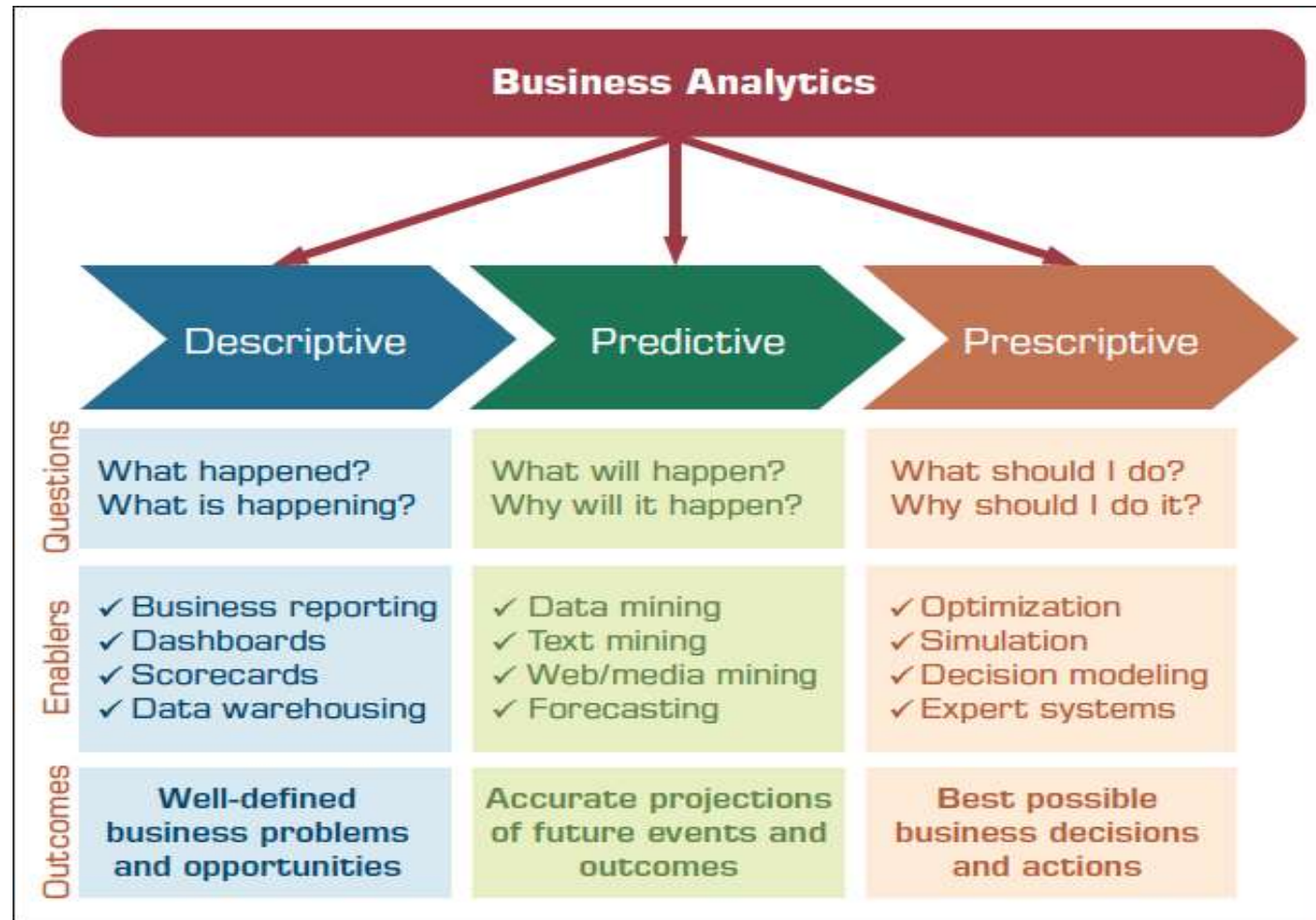


What does *Singularity* mean?

The singularity in the context of technology, is a hypothetical future event that is related to the advent of true artificial intelligence, what philosophers in the field call strong AI. The singularity describes that moment in humanity's history, in this case the future, where technology changes so much that it becomes more intelligent than humans, and it will be largely due to the development of an AI that is able to exponentially better itself or create better versions of itself.

(Techopedia)

Ciência dos Dados



Three Types of Analytics

Oportunidades para IA e Ciência dos Dados na Administração Pública

- ✓ **Eficiência operacional**
- ✓ **Serviços ao cidadão**
- ✓ **Desenho/Avaliação Políticas Públicas**

A green rectangular road sign with rounded corners and a white border, mounted on two wooden posts. The sign features the word "Challenges" in a large, white, sans-serif font. The background is a bright blue sky with scattered white clouds. The sign is tilted slightly to the right.

Challenges



Dados, o petróleo do Séc. XXI

An iceberg floating in a blue ocean under a blue sky. The tip of the iceberg is above the water, while the much larger base is submerged. The words "BIG DATA" are written in large, white, bold capital letters across the submerged part of the iceberg.

BIG DATA

◀ WHAT WE KNOW...

◀ THE REST...



ATTRACT **THE RIGHT TALENTS**

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Job Title, Keywords, or Company Jobs Location Search

50 Best Jobs in America for 2019

Best Jobs 2019 United States Share f t in

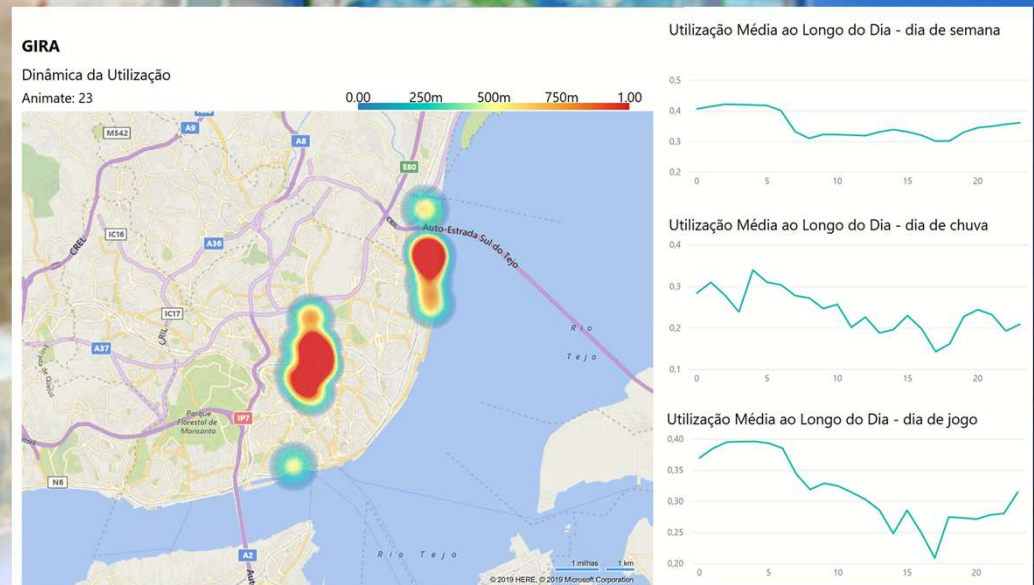
Job Title	Median Base Salary	Job Satisfaction	Job Openings	
#1 Data Scientist	\$108,000	4.3/5	6,510	View Jobs
#2 Nursing Manager	\$83,000	4/5	13,931	View Jobs
#3 Marketing Manager	\$82,000	4.2/5	7,395	View Jobs

**Qual é a diferença
entre um analista
de dados, um
cientista de dados
e um engenheiro
de dados?**



James Lee 15 JUN 2017 in careers
<https://www.dataquest.io/blog/data-analyst-data-scientist-data-engineer/>

Information Delivery





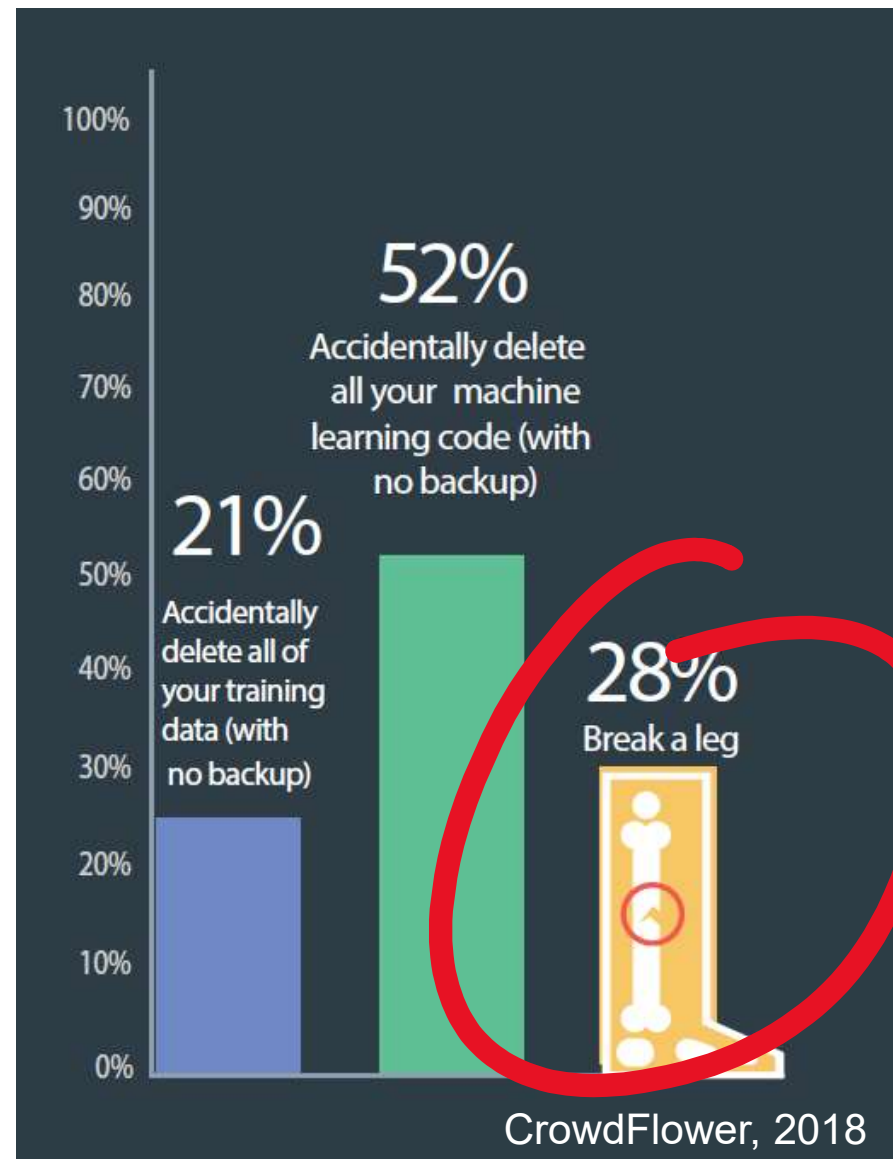
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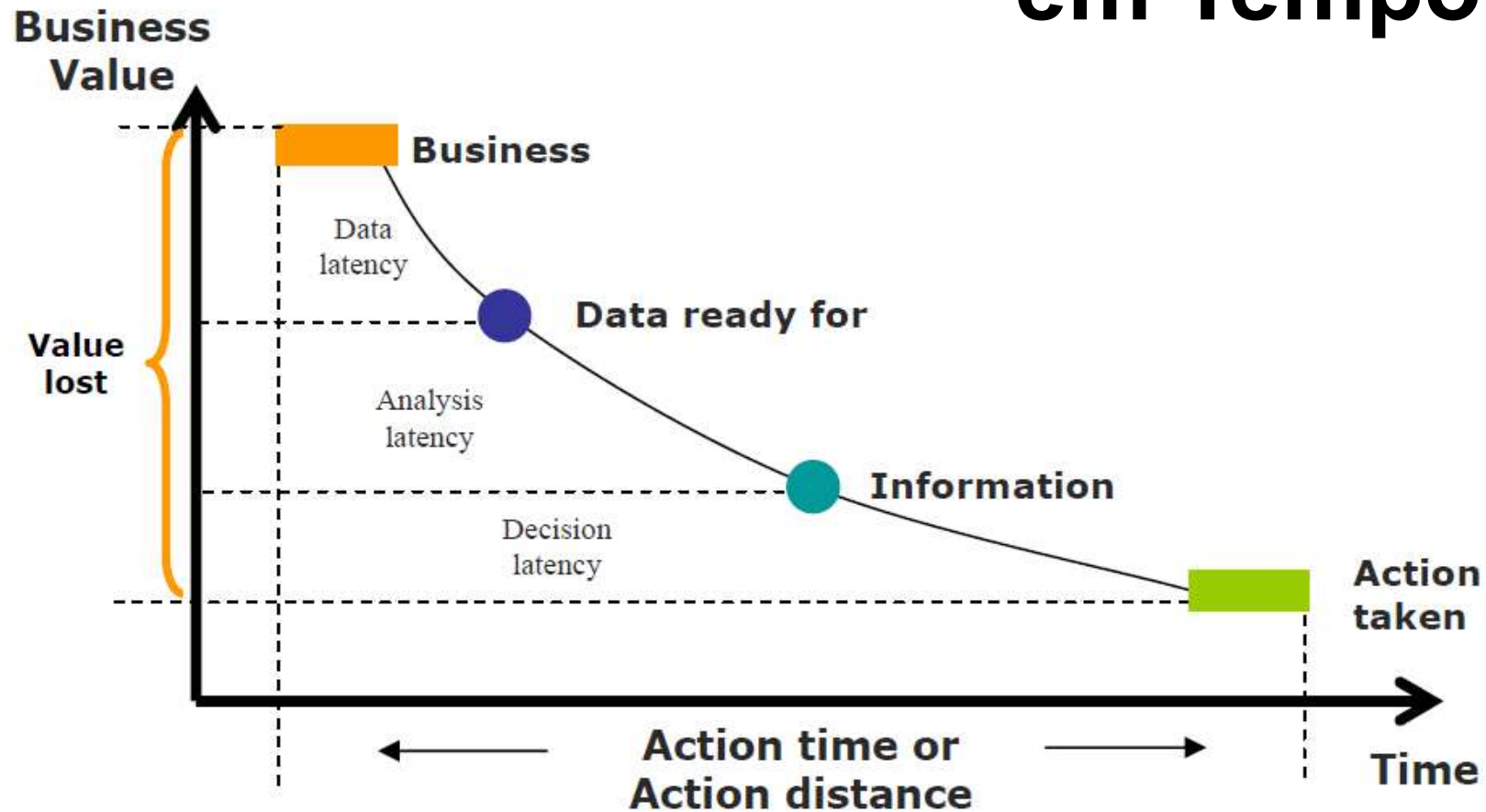
Gestão de Dados

- Relevância
- Acesso
- Quantidade
- ***Qualidade***
- ***Governança***
 - ▶ ***Segurança***
 - ▶ ***Privacidade***

Would you rather ...

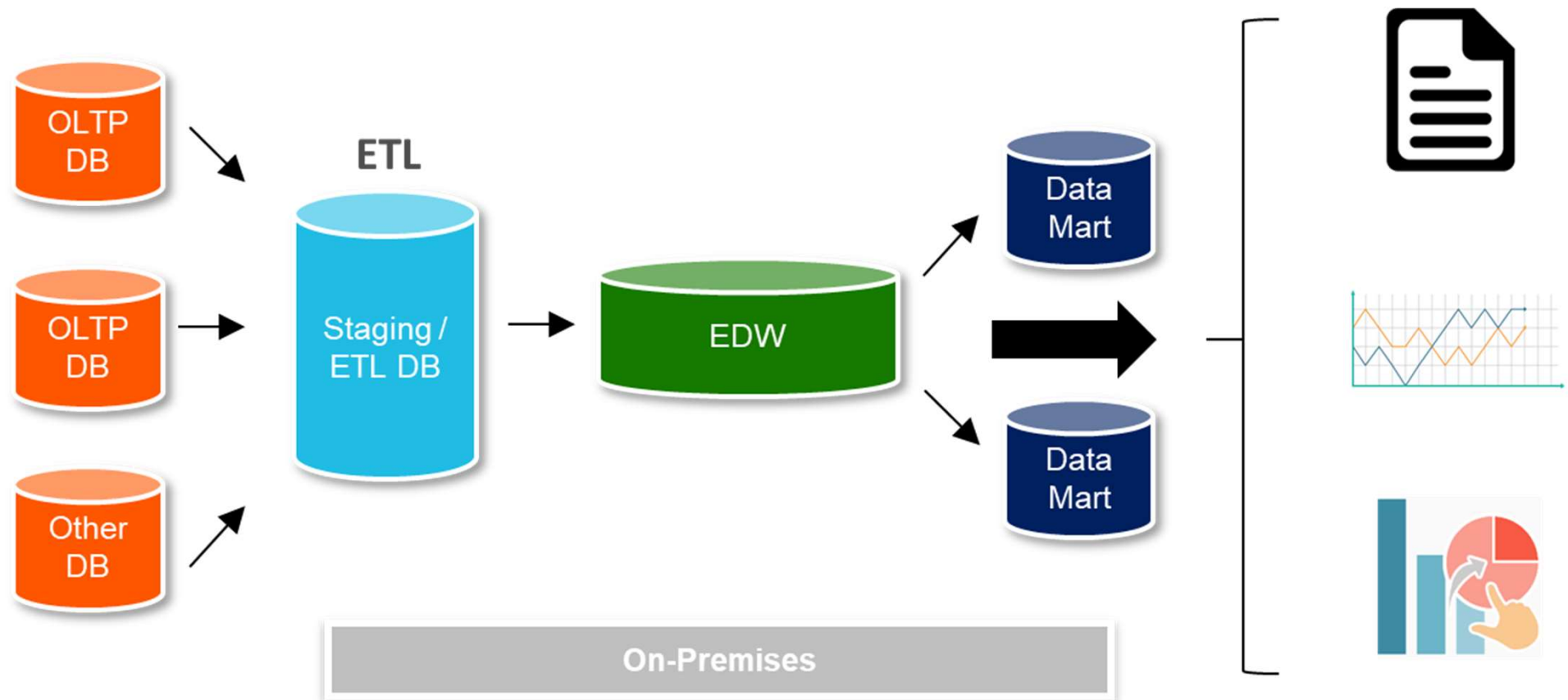


Tomada de Decisão em Tempo Real

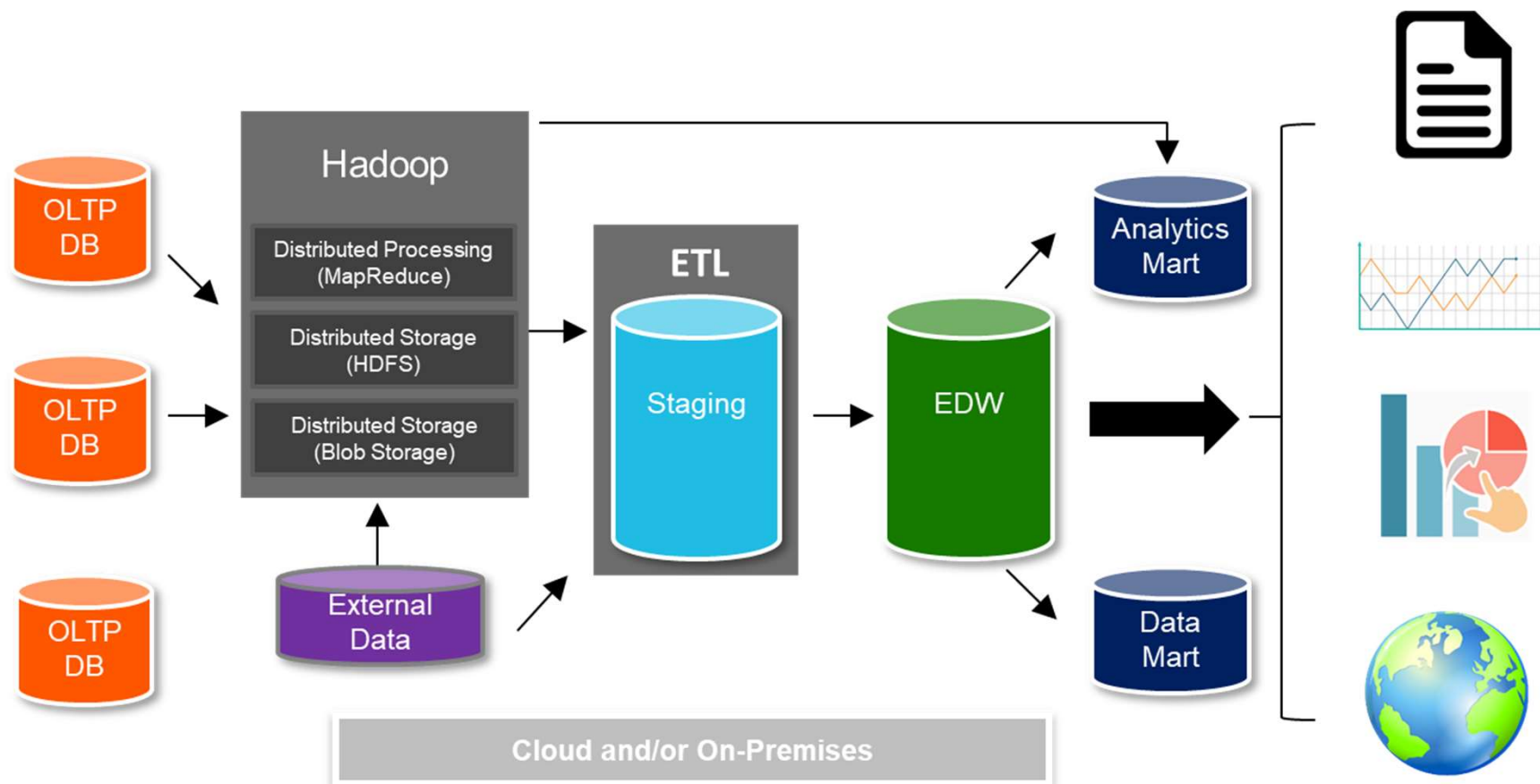


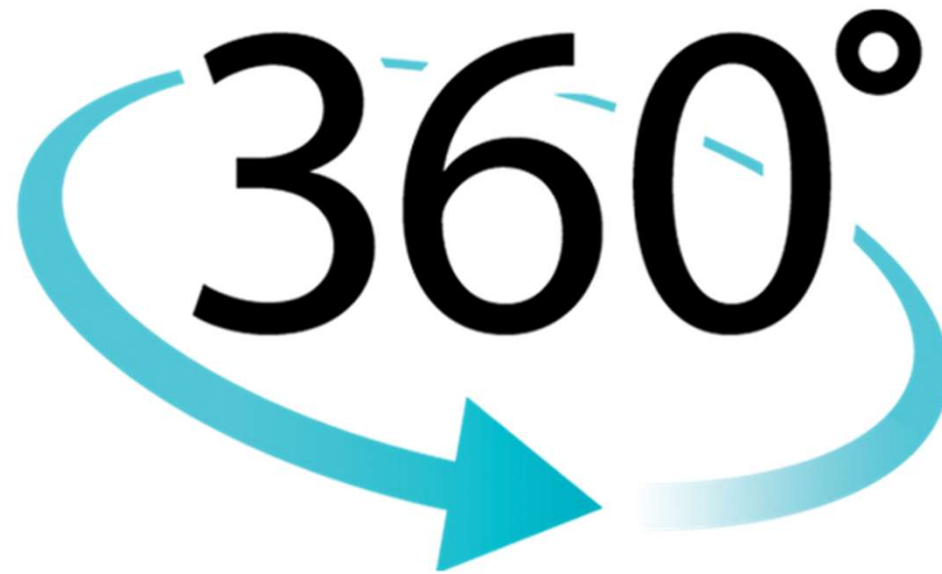
(Bolder Technologies)

Arquitectura Data Warehouse Clássica



Arquitectura Data Warehouse Hoje





Stream Analytics



<https://vimeo.com/142503859>

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https://www.youtube.com/watch?time_continue=33&v=xzpRUuDjiO4

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China is building a high-tech authoritarian future

With **millions of cameras** Beijing is embracing technologies like facial recognition and artificial intelligence to identify and track **1.4 billion people**

Last summer, the police put up cameras linked to facial recognition technology and a big outdoor screen. Photos of lawbreakers were displayed alongside with their names and governments' ID numbers.

New York Times By Paul Mozur
July 2, 2018



UTOPIA



Xilogravura por [Ambrosius Holbein](#) de uma edição de [1518](#) de Utopia

Libellus verus de optimo reipublicae statu deque nova insula Utopia (título original em [latim](#): significa "Um pequeno livro verdadeiramente dourado, não menos benéfico que entretedor, do melhor estado de uma república da nova ilha Utopia"), mais conhecido simplesmente como **Utopia**, é um livro de [1516](#) escrito por [Tomás Moro](#) ([Thomas Morus](#)) (1480-1535).

DISTOPIA



Capa da primeira edição publicada em 1949

Nineteen Eighty-Four (em [português](#): *Mil Novecentos e Oitenta e Quatro* ou [1984](#)), muitas vezes publicado como "1984", é um romance [distópico](#) da autoria do escritor inglês [George Orwell](#) e publicado em 1949



Seeing AI



<https://youtu.be/y5bktGGkd9w>

Veja-o em ação

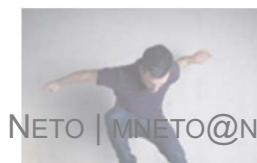


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Etiquetas	<pre>[{ "name": "tree", "confidence": 0.9974075 }, { "name": "outdoor", "confidence": 0.9842672 }, { "name": "plant", "confidence": 0.7008766 }, { "name": "land", "confidence": 0.144846335 }, { "name": "hillside", "confidence": 0.130991787 }]</pre>
Formato da imagem	"Jpeg"

URL de imagem

Submeter

Procurar



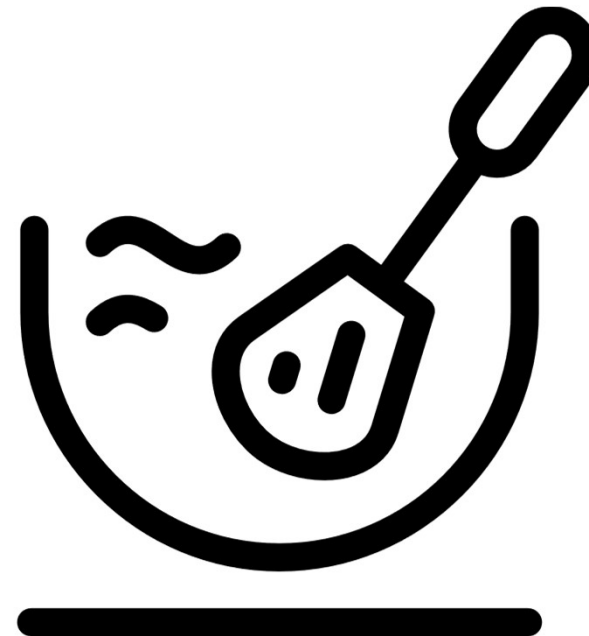
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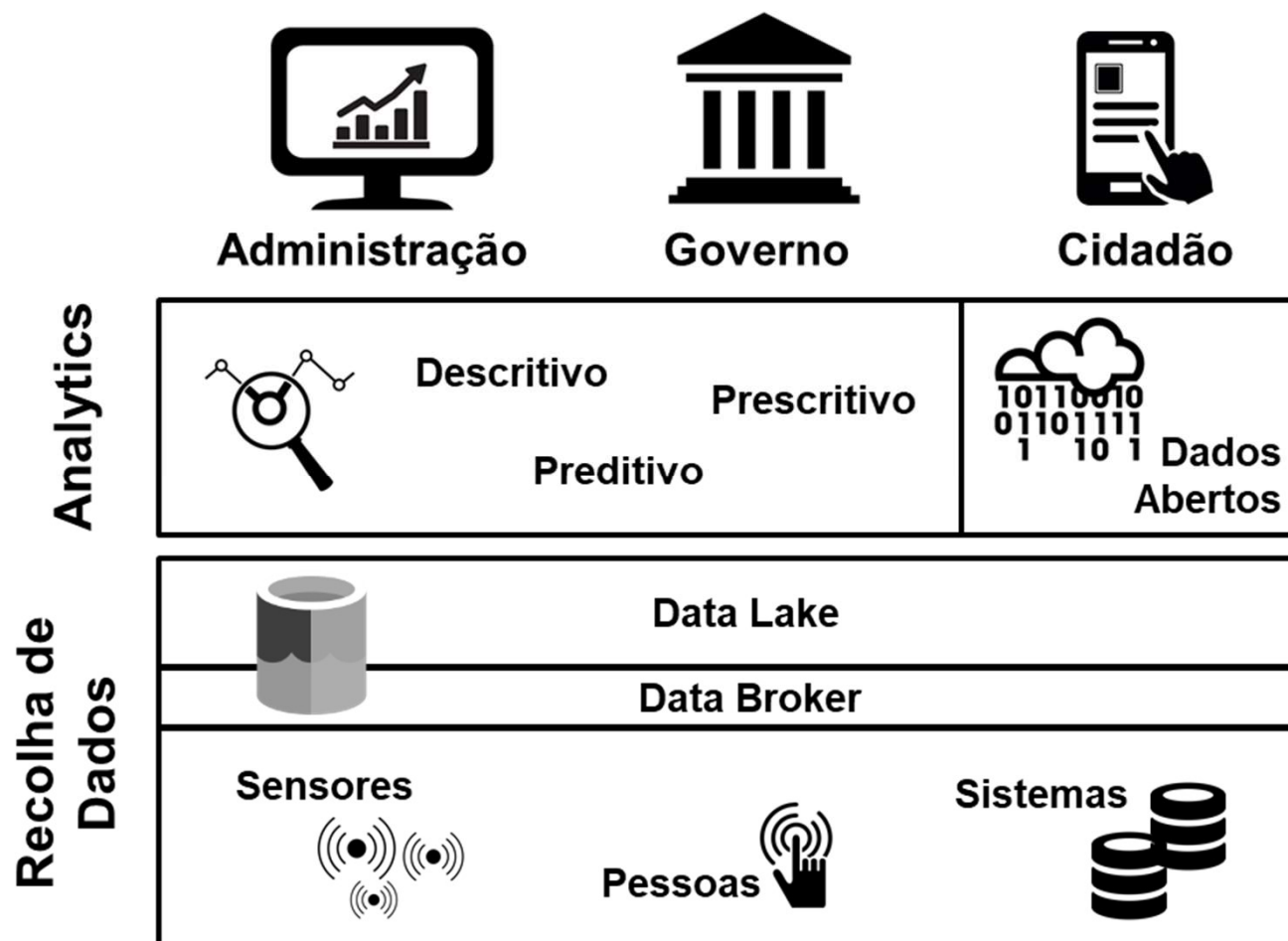
Topping

vs



Receita

Plataforma



Oportunidades

- Processamento de documentos/formulários/...
- Encaminhamento de processos/reclamações/...
- Automatização de decisões
- Interação com os “clientes”
- Identificação de padrões/relações
- Análise de sentimentos
- Reconhecimento de imagens
- Detecção/previsão de fraude
- Previsão de riscos/catástrofes
- ...

Alguns projetos NOVA IMS *FCT*

- **GADGET** - Online Gambling Addiction Detection
- **DS4AA** - Understanding the drivers of academic achievement: Evidence for Portugal's high school system
- **BINDER** - Improving Bio-Inspired Deep Learning for Radiomics

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Obrigado !!!

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