

**Capital
Markets
Day**

July 2021

How AI is powering the fourth industrial revolution

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- 25+ years of international innovation and transformation leadership experience in B2B and B2C
- Co-founder of early internet brand MapQuest.com
- Co-Chair Harvard Business School Angels, DN Capital advisor, and AI Expert in Residence at Seedcamp
- MBA from HBS and BA in AI from Sussex University, UK
- Member World Economic Forum's Global AI Council



Companion to the Model AI Governance Framework – Implementation and Self-Assessment Guide for Organizations

Prepared in collaboration with the
Info-communications Media Development Authority of Singapore

January 2020



SG:D
SINGAPORE
DIGITAL
DEVELOPMENT
AUTHORITY

IMDA
INFORMATION
MEDIA
DEVELOPMENT
AUTHORITY

pdpc
PERSONAL DATA
PROTECTION COMMISSION
SINGAPORE



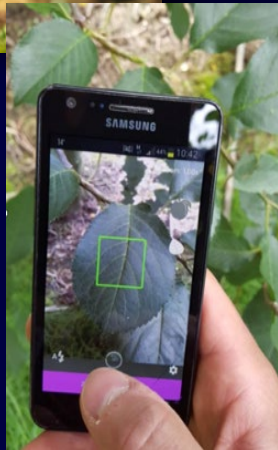
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**AI is one of the most
important things
humanity is working
on. It is more profound
than, I dunno,
electricity or fire**

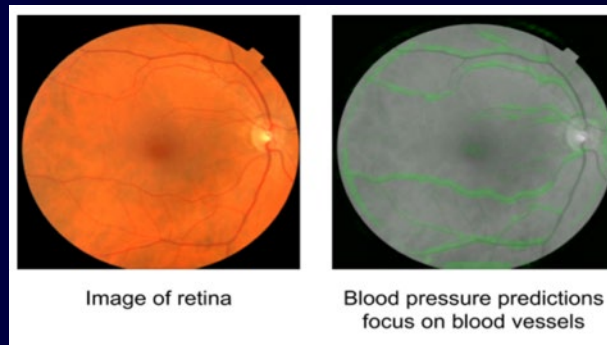
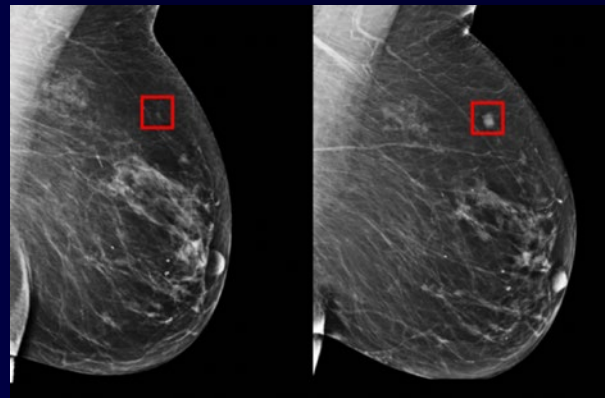
**SUNDAR PICHAI
CEO, GOOGLE**



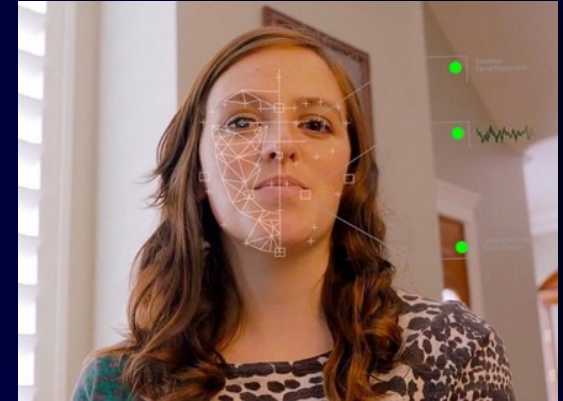
AI / ML is a GPT that will be woven into the fabric of society with the potential to transform lives, companies, & government



Improving crop yields in India with predictive plant disease diagnosis



Predicting occurrences of diseases earlier and more accurately



Improving corporate performance – security, supply chain forecasting

The total global uplift on GDP as a result of AI could be over \$10 trillion by 2030 per PWC

North America

\$3.7 Trillion
15% of GDP

North Europe

\$1.8 Trillion
10% of GDP

China

\$7.0 Trillion
26% of GDP

'racially biased' algorithms

Gender bias in AI: building fairer algorithms

Bias in AI: A problem recognized but still unresolved

Millions of black people affected by racial bias in health-care algorithms

Study reveals rampant racism in decision-making software used by US hospitals – and highlights ways to correct it.

AI Bias Could Put Women's Lives At Risk – A Challenge For Regulators

Amazon, Apple, Google, IBM, and Microsoft worse at transcribing black people's voices than white people's with AI voice recognition, study finds

When It Comes to Gorillas, Google Photos Remains Blind

Google promised a fix after its photo-categorization software labeled black people as gorillas in 2015. More than two years later

KILLER COMPUT

Google 'fixed' its racist algorithm by removing gorillas from its image-labeling tech

The Week in Tech: Algorithmic Bias Is Bad. Uncovering It Is Good.

Bill Gates warns 'dangerous AI' poses a threat 'like nuclear weapons'

The Best Algorithms Struggle to Recognize Black Faces Equally

US government tests find even top-performing facial recognition systems misidentify blacks at rates five to 10 times higher than they do whites.

Artificial Intelligence has a gender problem – just ask Siri

AI could be used to **TAKE OVER** the **WORLD** through 'evil' fake news and hijacking cars

<https://phvs.org/news/2019-10-headlines-dont-robots-threaten-jobs.html>

AI is a key technology of the fourth industrial revolution

A hyper-connected, networked and digitized world driven by IoT, big data, AI & ML



The 1st Industrial Revolution
18th Century

**Steam based
mechanisation
revolution**



The 2nd Industrial Revolution
Early 19-20th Century

**Electricity
based mass
production
revolution**



The 3rd Industrial Revolution
Latter Half of the 20th Century

**Computer /
Internet based
knowledge**



The 4th Industrial Revolution
Early 21st Century -

**Big Data / AI /
IoT based
hyperconnectivity
revolution**

FOURTH INDUSTRIAL REVOLUTION

DIGITIZATION MEGA TRENDS

are the foundation for AI value creation and capture



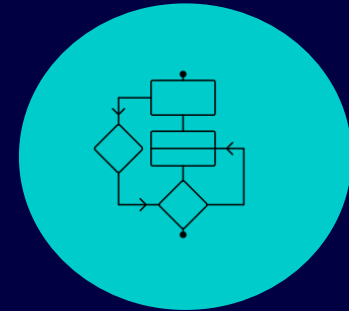
IoT



Big Data

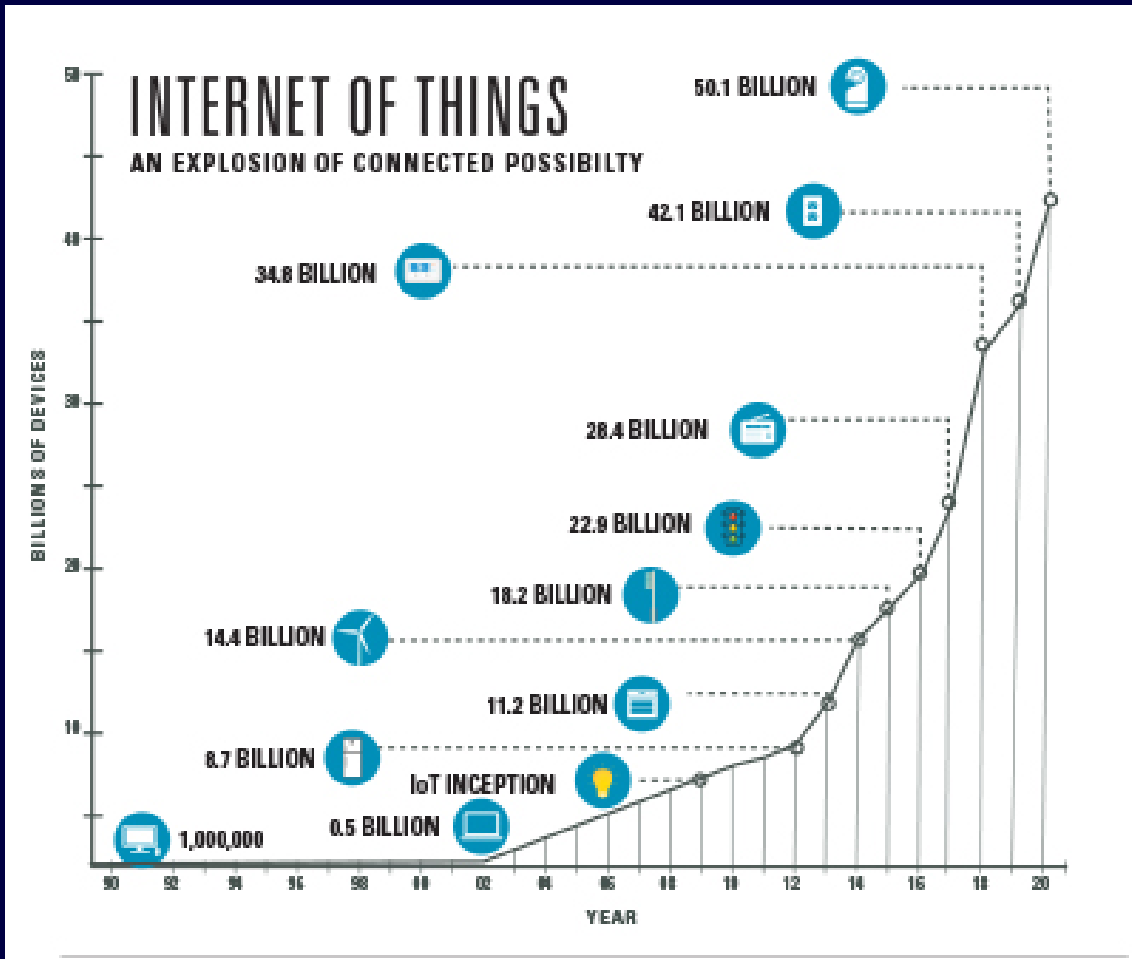


**Cloud &
SaaS**



**Algorithmic
Driven Work**

Exponential growth in IoT and mobile is driving massive increases in **big** huge data sets



13.6 zettabytes
(10^{21}) **of data**

collected by IoT
connections in 2019

expected to grow to
79.4 zettabytes by
2025

SaaS is eating the world”

A CODE CHANGE

**Software is
eating the
world**



Marc Andreessen
2011 Andreessen Horowitz.

**Software as a
Service
(SaaS)**

**By 2021, 73% of
organizations will be using
all or mostly SaaS solutions**

Nearly 85% of SMBs have
already invested in SaaS

Organizations with 250+
employees use more than 100
SaaS apps.

**Low Code or
No Code**

**100% of low-code
enterprises have received
ROI from their low-code
adoption**

The global...market is
predicted to grow from \$10.3B
in 2019 to \$187.0B by 2030

84% of enterprises have
turned toward low-code for its
ability to reduce strain on IT
resources, increase speed-to-
market...

Growth in algorithmic work assignment

Software algorithms allocate, optimise, and evaluate work



<https://www.lumapps.com/products/frontline-workers-app/>



<https://www.researchgate.net/publication/277875720> Working with Machines The Impact of Algorithmic and Data-Driven Management on Human Workers

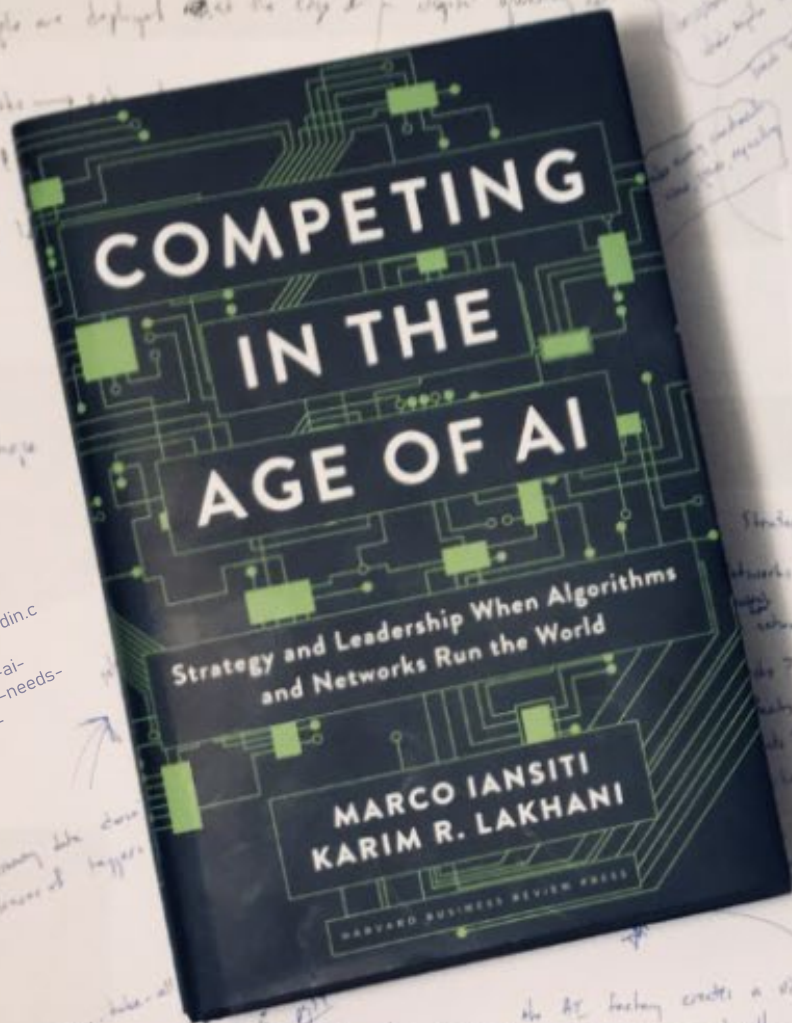


Is it a **human-centric** algorithm?

**87% of companies
were committed to
creating a workforce
ready for the Fourth
Industrial Revolution**

**According to 2017
Deloitte Survey**

**The (digital)
future of
work**



The hard part of AI is not doing AI, but putting in place the foundations to do AI

Then our imagination is the limit

<https://www.linkedin.com/pulse/why-competing-age-ai-iansiti-lakhani-needs-top-your-list-calvanese/>

The opportunity is to enable many use cases from predictive maintenance to energy optimisation to improved job satisfaction with AI



Healthcare

Reduce unplanned work and improve efficiency across complex environments creating reliability across the patient journey.



Food Retail

Achieve complete visibility, proactively resolve problems, and capitalise on real-time opportunities to delight customers.



Franchise

Deliver customer excellence consistently across distributed sites and gain actionable insights about stock and services.



Pharma

Reduce wastage, ensure quality and compliance with automated alerting, triage and secure audit logs.



Facilities Management

Gain visibility, actionable insights and understanding needed to proactively address incidents from a centralised platform.



Thank you

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