

# Shifting Paradigms

Jacob Thomas Jr

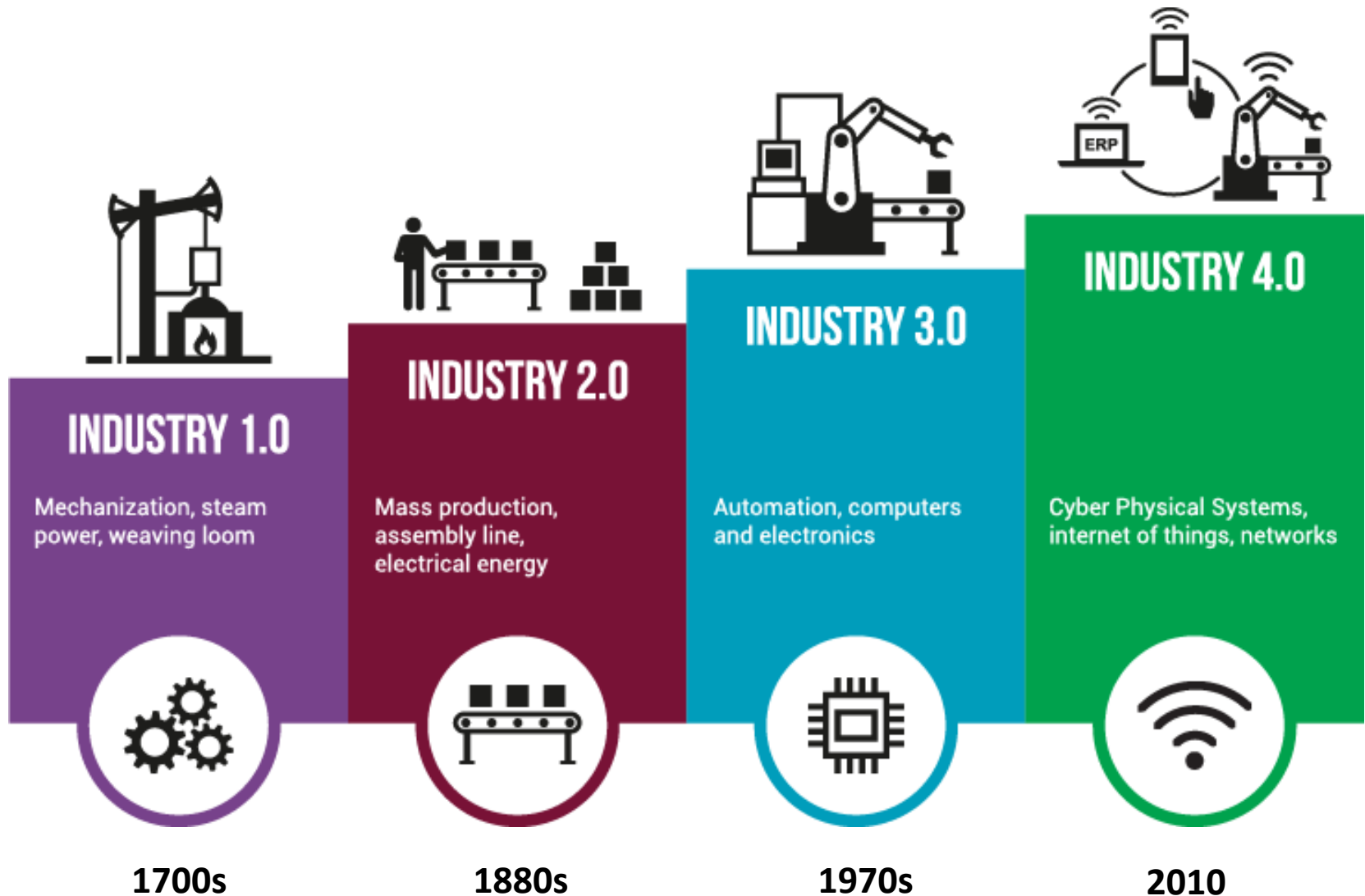
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IT IS NOT THE STRONGEST  
OF THE SPECIES THAT SURVIVES,  
NOR THE MOST INTELLIGENT.  
IT IS THE ONE THAT IS  
MOST ADAPTABLE TO CHANGE.

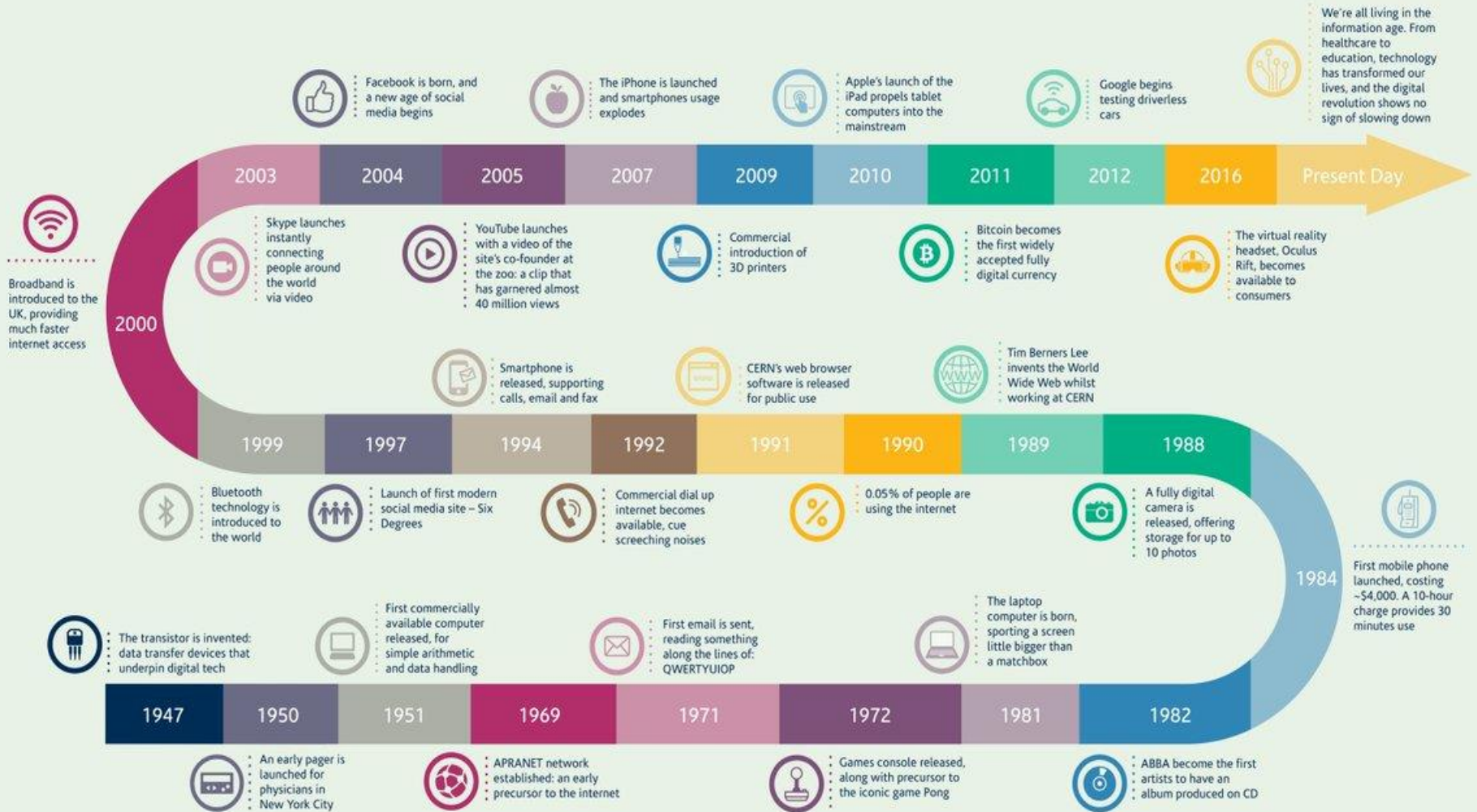
french by design blog

– CHARLES DARWIN

# Industry Revolutions - from 1700s



# A BRIEF HISTORY OF THE DIGITAL REVOLUTION



# Hardware Domination – since 1947..

- Hardware technology shaped the ICT industry – following Moore's Law
- From Mainframes to Tablets.....



# Now – A Shift is Happening

- Hardware is getting commoditised with rapid advancement in x86 technology.

Code name	Core	GA
Foster	(180 nm)	May 2001
Prestonia	(130 nm)	Feb 2002
Nocona	(90 nm)	Jun 2004
Irwindale	(90 nm)	Feb 2005
Paxville	dual (90 nm)	Oct 2005
Dempsey	dual (65 nm)	May 2006
Sossaman	dual (65 nm)	Mar 2006
Wolfdale	dual (45 nm)	Feb 2008
Kentsfield	quad (65 nm)	Jan 2007
Yorkfield	quad (45 nm)	Mar 2008
Wolfdale DP	dual (45 nm)	Nov 2007
Clovertown	quad (65 nm)	Nov 2006
Harpertown	quad (45 nm)	Nov 2007
Nehalem-EP	dual/quad (45 nm)	Mar 2009
Bloomfield	quad (45 nm)	Mar 2009
Beckton (65xx)	quad/six/eight (45 nm)	Mar 2010
Westmere-EX (E7-2xxx)	six/eight/ten (32 nm)	Apr 2011
Sandy Bridge-EP	dual/quad/six/eight (32 nm)	Mar 2012
Ivy Bridge (E3 v2/E5-1xxx/2xxx v2)	dual/quad/six/eight/ten/twelve (22 nm)	Sep 2013
Ivy Bridge-EX (E7-28xx v2)	twelve/fifteen (22 nm)	Feb 2014
Haswell (E3 v3/E5-1xxx/2xxx v3)	2/4/6/8/10/12/14/16/18 (22 nm)	Sep 2014
Broadwell (E3 v4/E5-1xxx/2xxx v4)	4/6/8/10/12/14/16/18/20/22 (14 nm)	Jun 2015
Skylake-DT (E3 v5)	quad (14 nm)	Oct 2015

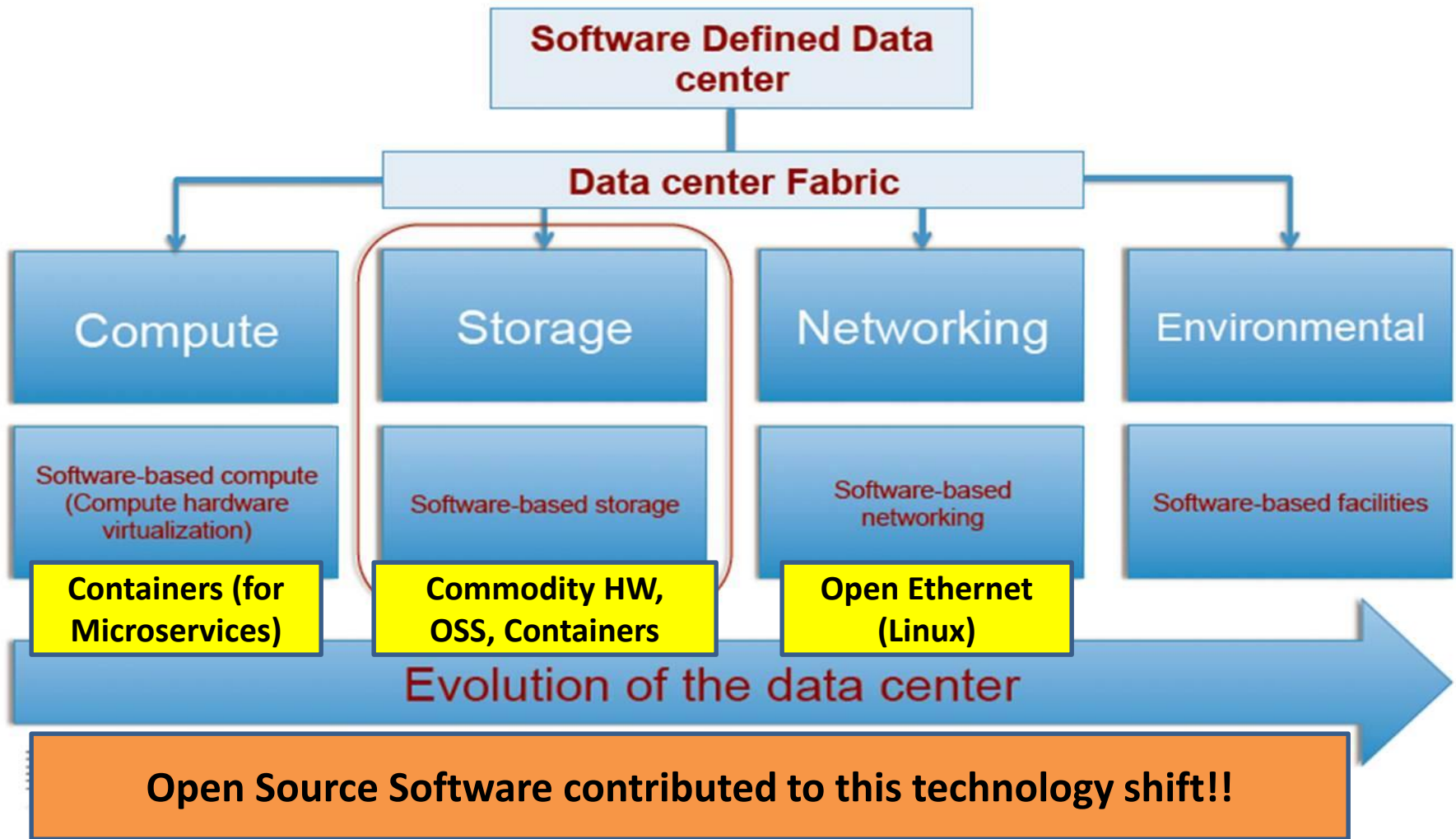
# Hardware – Not a differentiator!

Product Family	Intel Xeon E5-2600/4600 V4	Intel Xeon E7-8800/4800 V4	Intel Xeon E5-2600/4600 V5	Intel Xeon E7-8800/4800 V5	Intel Xeon E5-2600/4600 V6	Intel Xeon E7-8800/4800 V6
Family Branding	Broadwell-EP	Broadwell-EX	Skylake-EP	Skylake-EX	Cannonlake-EP	Cannonlake-EX
Process Node	14nm	14nm	14nm	14nm	10nm	10nm
Max Core Count	22	24	26	28	30-32?	32-34?
Max Thread Count	44	48	52	56	60-64?	64-68?
Max L3 Cache	55 MB	60 MB	65 MB	70 MB	75-80?	80-85?
TDP Range	55-145W	115-165W	45-160W	110-160W	45-160W	110-160W
Launch Expected	Q1 2016	Q2 2016	1H 2017	2017	2018	2018

## Intel Processor Roadmap

# Technology Shifted – to SOFTWARE!

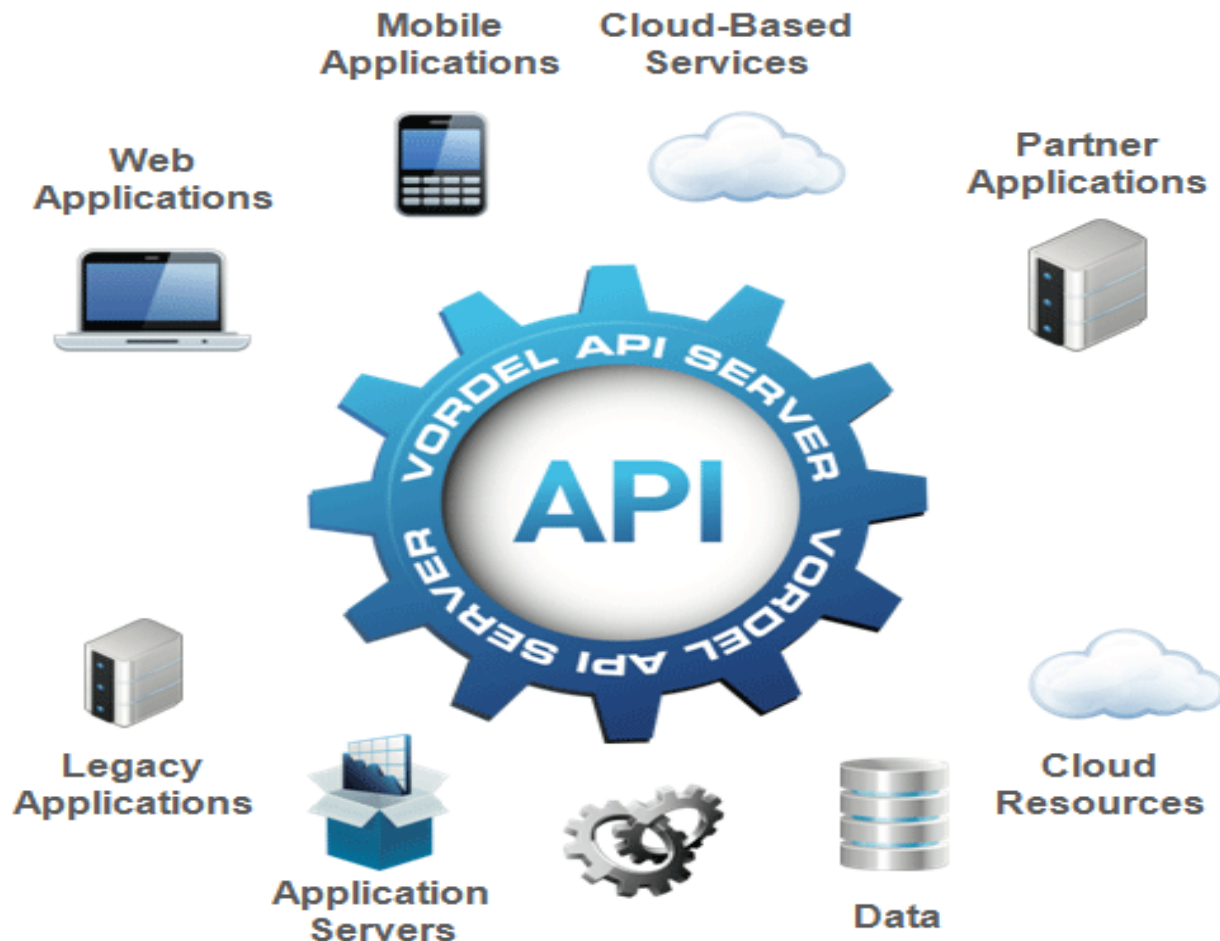
- A Software-defined landscape for Data Centre





# Software - In the Driver's Seat

- APIs drive app services reusability & seamless integration with other applications across platforms



**OSS Community played a key role in creating OpenAPI specifications that paved the way for wider acceptance of RESTful APIs.**

# Software -The New Wave

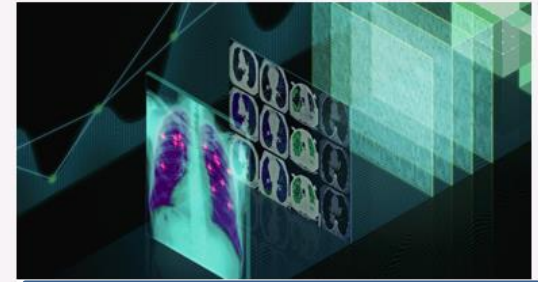
- Artificial Intelligence / Deep Learning Apps



Smart Cities



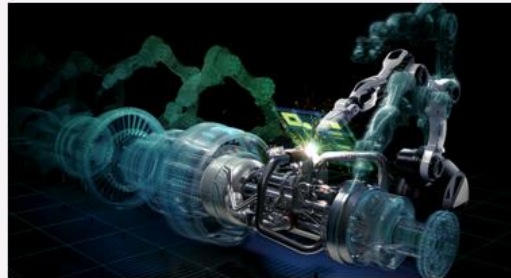
Community Services



Healthcare



Retail



Robotics



Autonomous Vehicles

**A major number of AI/DL frameworks are Open Source based!**

# Embrace Change & Adapt!



In today's fast-changing world, it's not so much what you know anymore that counts, because often what you know is old. It is how fast you learn. That skill is priceless.

— *Robert Kiyosaki* —

**Thank You!**