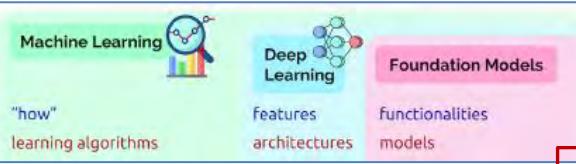
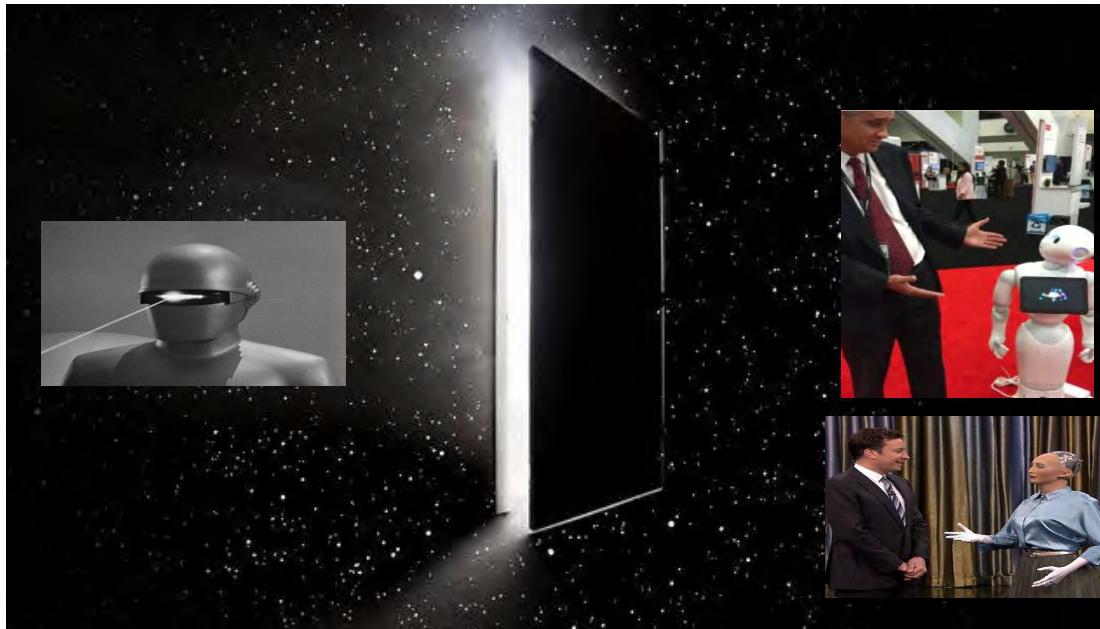


Entanglement & a Quantum Computer Future

You've Just Entered the Fifth Dimension



AI



Rich Niemiec

Oracle ACE Director | CIO

@richniemiec

[linkedin.com/in/richard-niemiec-b65828/](https://www.linkedin.com/in/richard-niemiec-b65828/)

rich.niemiec@viscosityna.com



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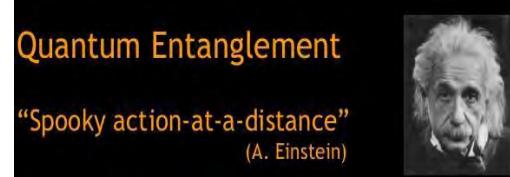
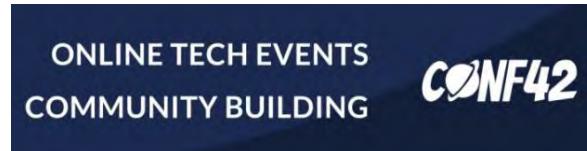


@ViscosityNA

Agenda –Apply Technology & W.I.N.

SUBMITTED
FOR YOUR
APPROVAL

- Economic Potential of GenAI & Robots
- What is Entanglement
- Why Entanglement will Matter
- Entanglement Effect on Quantum Computers
- Physics Couldn't Solve It In 1927
- Entanglement may Change Life as We Know It
- Machine Learning Future, Robots & VR 



The economic potential of GenAI*

- McKinsey & Co.¹

The very nature of digital data presents a challenge

Digital

Can be copied
perfectly, infinitely

Data

Shape of origin is
rarely shape of use



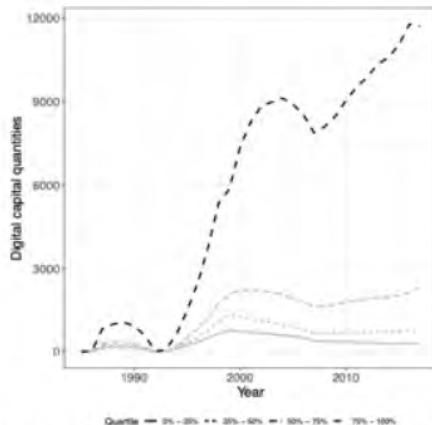
→ Requires a whole system
to create, repurpose, and protect
data products

→ Requires shapeshifting
to achieve
maximum value

Digital Capital and Superstar Firms¹

25%

of a firm's value is
digital capital



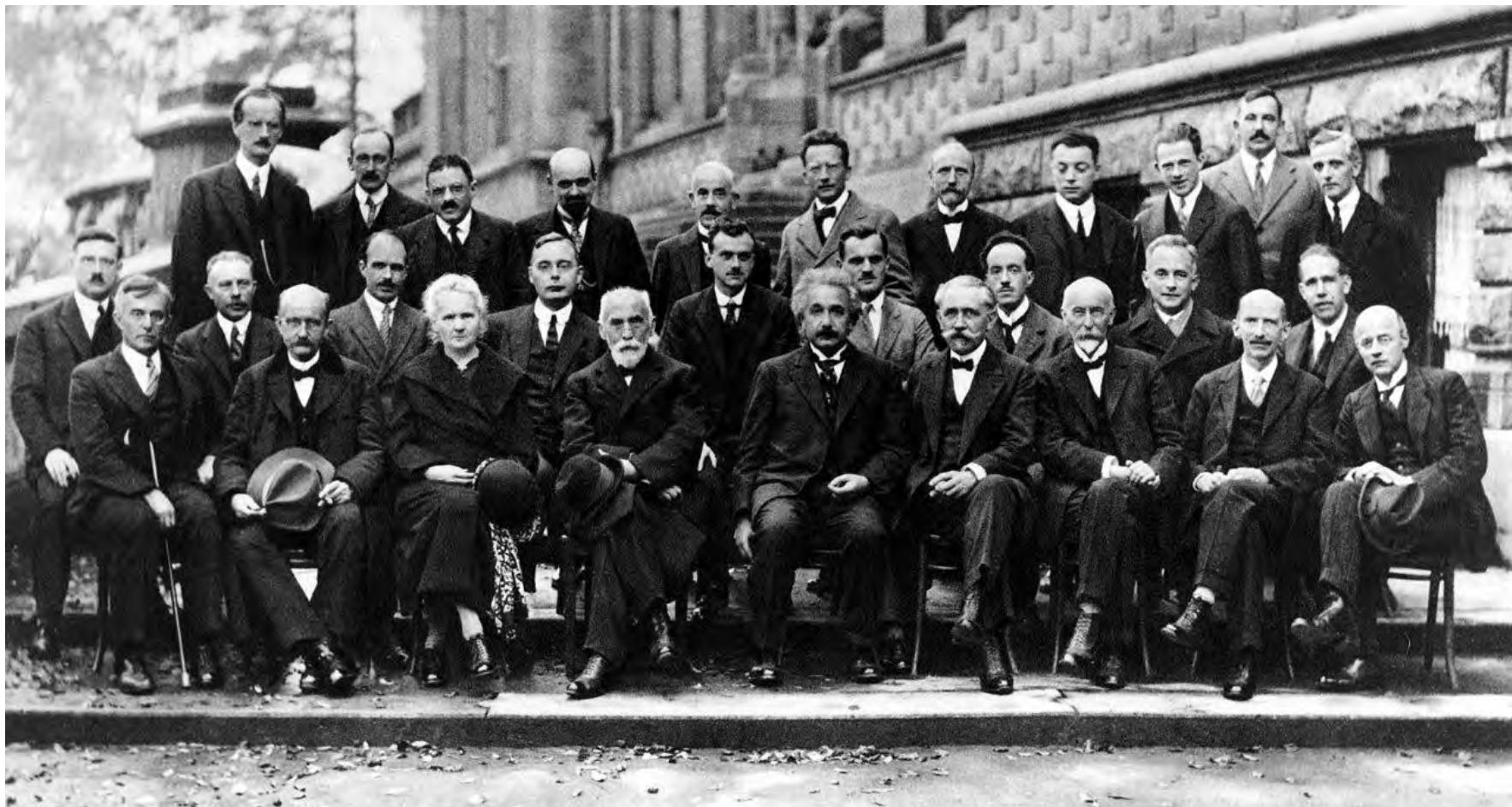
Digital capital quantities by market value

Digital capital is more concentrated
than any other asset class

Most value concentrated in top decile
of firms by market value

Digital capital accumulation predicts
firm productivity 3 years out

1927 Solvay Conference (fifth one)



Bohr & Einstein often debated Quantum Theory

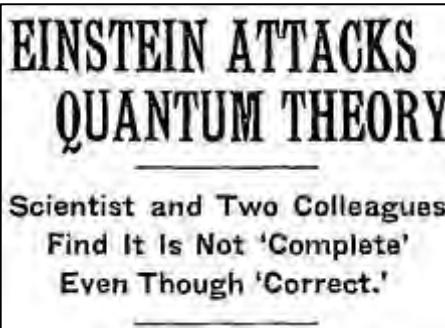
(Note: they won back-to-back Nobel Prizes in 1921/1922)



Albert Einstein: “**God does not play dice.**”



Niels Bohr: “**Einstein, stop telling God what to do.**”



Via EPR Paper



What is Quantum Entanglement

Dictionary

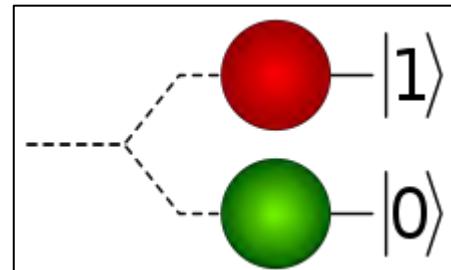
Definitions from [Oxford Languages](#) · [Learn more](#)



quantum entanglement

noun PHYSICS

the phenomenon whereby a pair of particles are generated in such a way that the individual quantum states of each are indefinite until measured, and the act of measuring one determines the result of measuring the other, even when at a distance from each other.



$$|0\rangle = \begin{bmatrix} 1 \\ 0 \end{bmatrix} \text{ and } |1\rangle = \begin{bmatrix} 0 \\ 1 \end{bmatrix}$$

Driac or Bra-Ket Notation
Ket 0 & Ket 1



"About your cat, Mr. Schrödinger—I have good news and bad news."

- **Entanglement** - Particles interacting in a way that each particle cannot be described independently of the state of the other even when separated by a large distance.
- **Qubit** - *Quantum Bit* is in two states
- **Superposition** of States 1/0
- **Superposition** of Electron Spin Up/Down
- **Decoherence** - Quantum State *broken*
- **2008** - Superposition for 1.75 seconds
- **2013** - Superposition of 3 hrs. (**low temperature**)

Why Entanglement will matter with AI

- Classical algorithms run on quantum computers, but quantum algorithms (quantum Neural Network) use quantum computation such as quantum entanglement and quantum superposition.
- **Quantum accelerates** Algorithms like **Shor's Algorithm** for factoring (used widely in security & the internet) & Grover's algorithm used for searching an unstructured data. Both of these algorithms run unbelievably faster than any *next best* choice.
- It also speeds up finding the k-nearest neighbor used often with indexing AI in Vector Searches & many other algorithms.
- There is also a **Quantum Eigensolver** algorithm that can be helpful in AI specifically.
- May **Accelerate Reinforcement Learning** (Machine Learning)

The Race to Build a Quantum Computer

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Books > Computers & Technology > Hardware & DIY

Schrödinger's Killer App
Race to Build the World's First Quantum Computer



Jonathan P. Dowling

CRC Press
Taylor & Francis Group

Read sample

Schrodinger's Killer App: Race to Build the World's First Quantum Computer 1st Edition

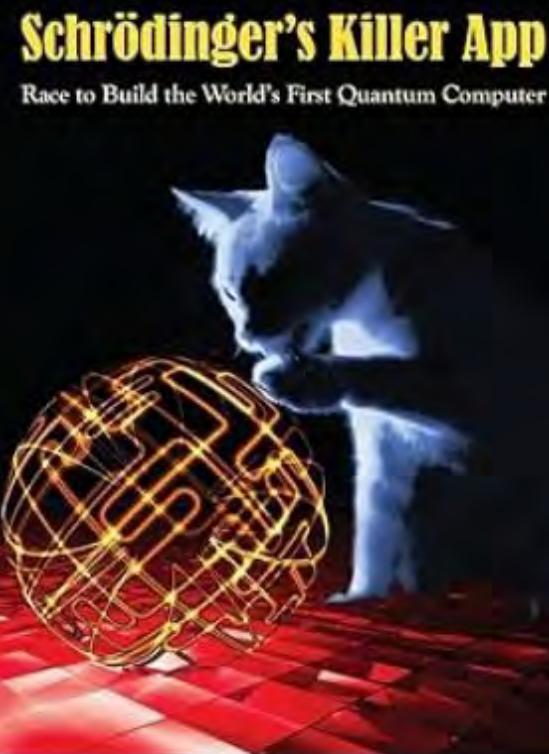
by Jonathan P. Dowling (Author)

4.0 38 ratings See all formats and editions

The race is on to construct the first quantum code breaker, as the winner will hold the key to the entire Internet. From international, multibillion-dollar financial transactions to top-secret government communications, all would be vulnerable to the secret-code-breaking ability of the quantum computer.

Written by a renowned quantum physicist closely involved in the U.S. government's development of quantum information science, **Schrödinger's Killer App: Race to Build the World's First Quantum Computer** presents an inside look at the government's quest to build a quantum computer capable of solving complex mathematical problems and hacking the public-key encryption codes used to secure the Internet. The "killer application" refers to Shor's quantum factoring algorithm, which would unveil the encrypted communications of the entire Internet if a quantum computer could be built to run the algorithm. Schrödinger's notion of quantum entanglement—and his infamous cat—is at the heart of it all.

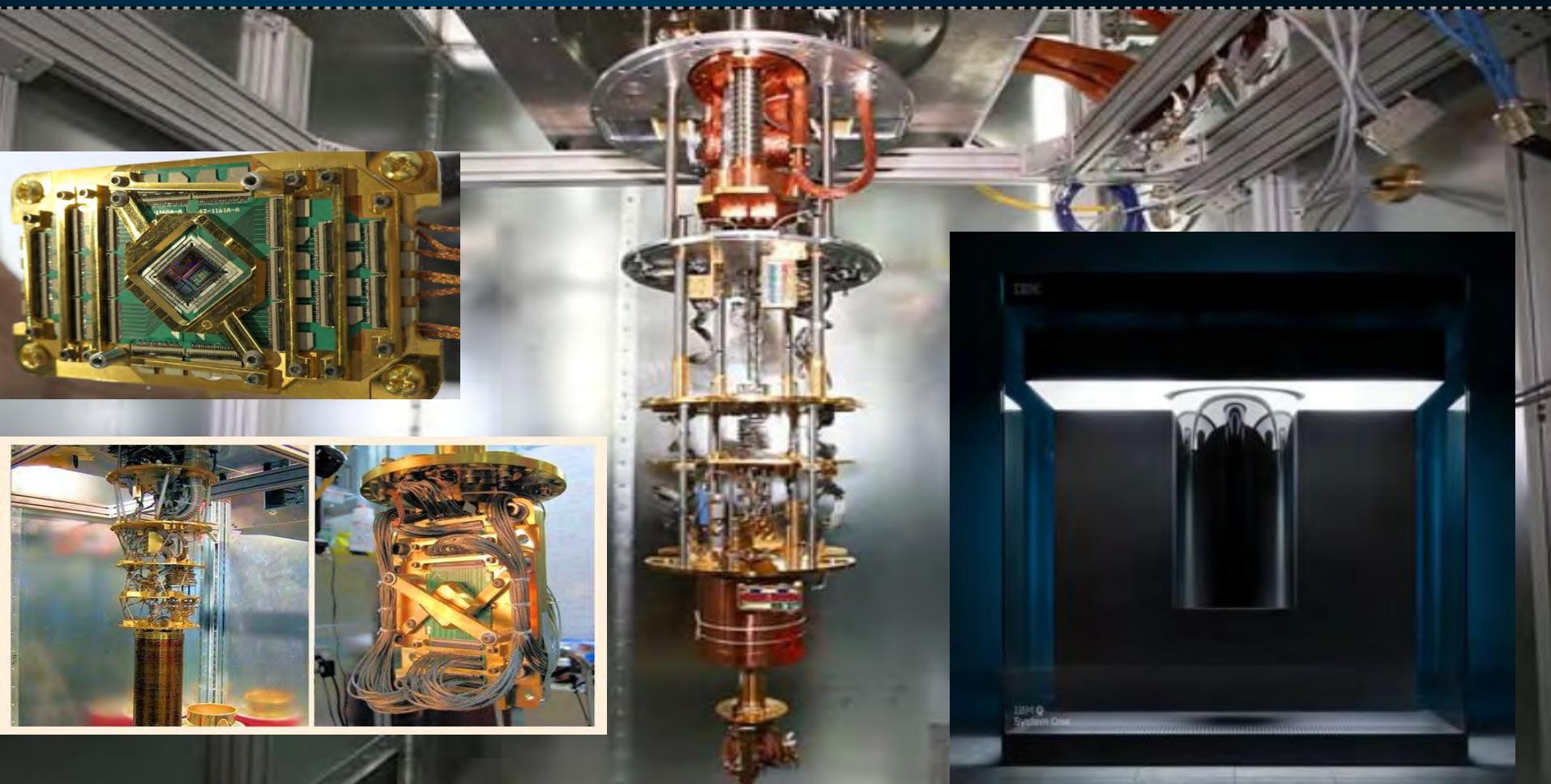
The book develops the concept of entanglement in the historical context of Einstein's 30-year battle with the physics community over the true meaning of quantum theory. It discusses the remedy to the threat posed by the quantum code breaker: quantum cryptography, which is unbreakable even by the quantum computer. The author also covers applications to other important areas, such as quantum physics simulators, synchronized clocks, quantum search engines, quantum sensors, and imaging devices. In addition, he takes readers on a philosophical journey that considers the future ramifications of quantum technologies.



Jonathan P. Dowling

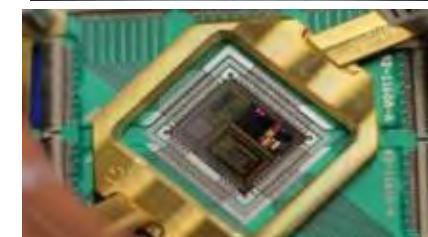


Effects of Entanglement on Quantum Computing



64-Bit advancement of Directly addressable memory

	<u>Address Directly</u>	<u>Indirect/Extended</u>
<u>4 Bit:</u>	16	(640)
<u>8 Bit:</u>	256	(65,536)
<u>16 Bit:</u>	65,536	(1,048,576)
<u>32 Bit:</u>	4,294,967,296	
<u>64 Bit:</u>	18,446,744,073,709,551,616	
<u>128 Bit:</u>	3.4 x 10e+38	



**Technology Feels Like It's Accelerating
— Because It Actually Is**

By Alison E. Berman and Jason Dorrier - Mar 22, 2016 • 40,547

Shift

- 8-bit to 16-bit
- 16-bit to 32-bit
- 32-bit to 64-bit
- 64-bit to 128-bit

Increase (Result)

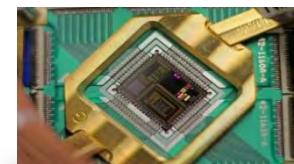
- 1 mph (Windows)
- 65K mph (Internet)
- 300T mph (Robotics/ML...etc)
- 5T*T*B mph (Implants/4D/AI)

What's comes *after* the Exadata Zone?

YOU will soon be in for more...

Directly Addressable

<u>4 Bit:</u>	16	<u>Indirect/Extended</u>
<u>8 Bit:</u>	256	(640)
<u>16 Bit:</u>	65,536	(65,536)
<u>32 Bit:</u>	4,294,967,296	(1,048,576)
<u>64 Bit:</u>	18,446,744,073,709,551,616	
<u>128 Bit:</u>	3.4 x 10e+38... quantum leap!	



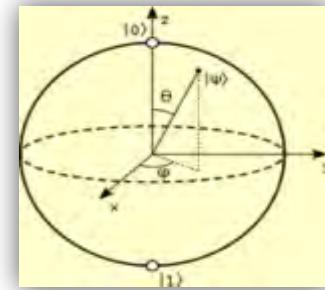
- Qubits allow multiple states so that you can look at all of the possibilities/probabilities at one time (**IBM now at 1000 qubits**).
- The “**Quantum Zone**” next (Quantum Physics is incomplete – Einstein)
 - Just 512 qubits would store 512-bits of addressable memory or 2^{512} (which is well over a googol or 1 with 100 zero's after it – **a googol is about 2^{332}**).
 - Brush up on your Eigenvectors, Eigenvalues, Pauli Matrices & Grover’s Algorithm
 - Create Singularity ... all atoms of a person by 2045 (I think earlier); **12-Monkeys**
 - Private universes – One for each person? (Schroeder’s cat – I think not)
 - Rearranging atoms to create new objects; Nanotech + Quantum Physics coming!

What's comes *after* the Exadata Zone?

YOU will soon be in for more...

Consider 3-bit or 2^3 (Addressable memory is 8)

000	100
001	101
010	110
011	111



With just 3 qubits I can (ket notation) – look at all 8 states **at once**:

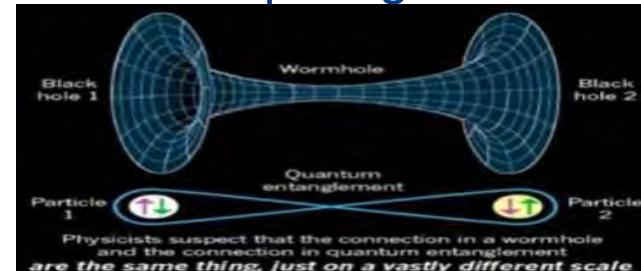
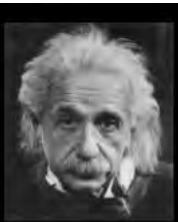
$$a|000\rangle + b|001\rangle + c|010\rangle + d|011\rangle + e|100\rangle + f|101\rangle + g|110\rangle + h|111\rangle$$

For the state (a,b,c,d,e,f,g,h) : Note that: $|010\rangle = (0,0,1,0,0,0,0,0)$

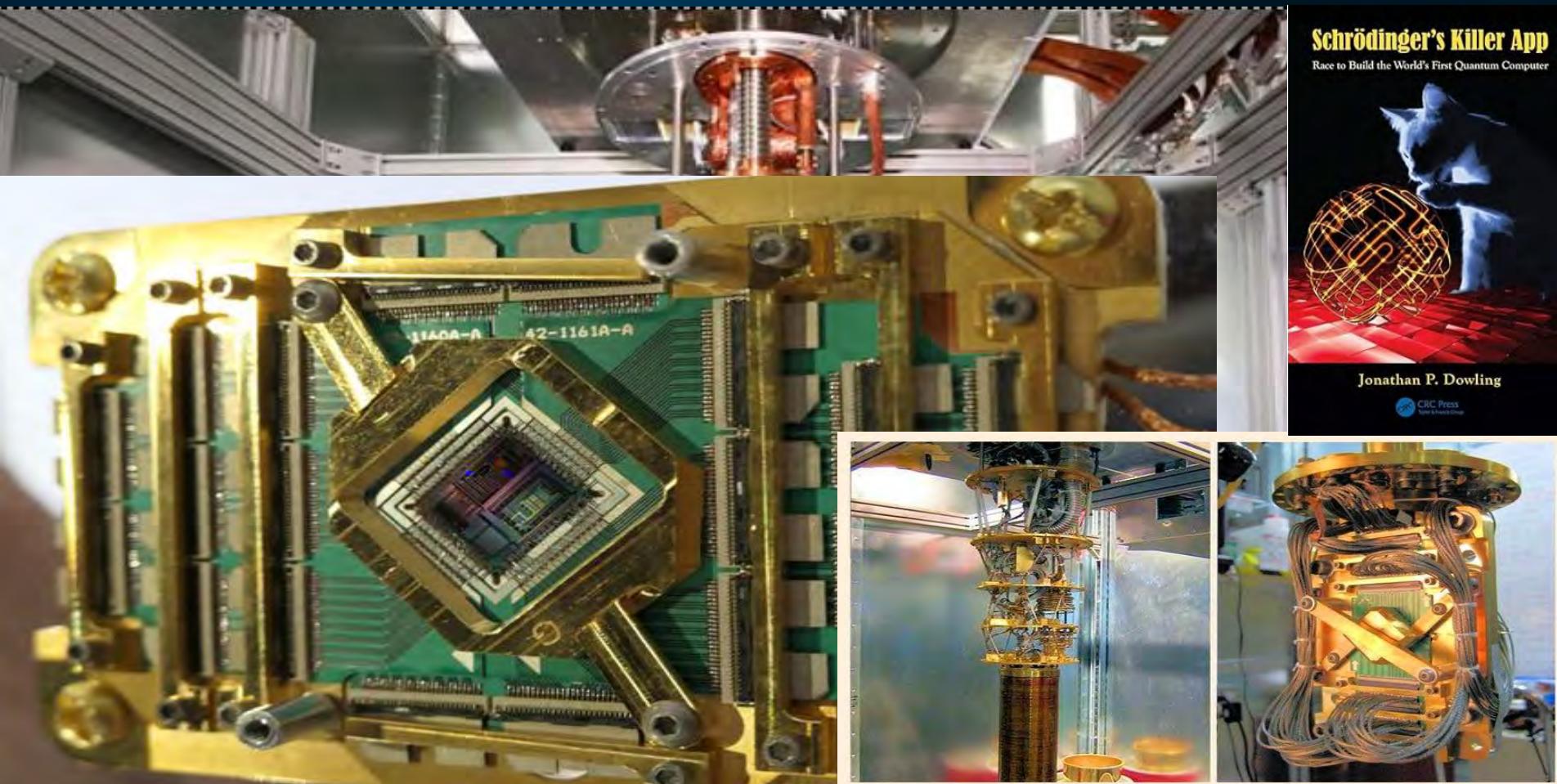
We're moving from zeros or ones to qubits (0 and 1) represented by the **Bloch Sphere**. Many challenges: Including quantum **decoherence** and issues mapping **entanglement** & **superposition** to computing.

Quantum Entanglement

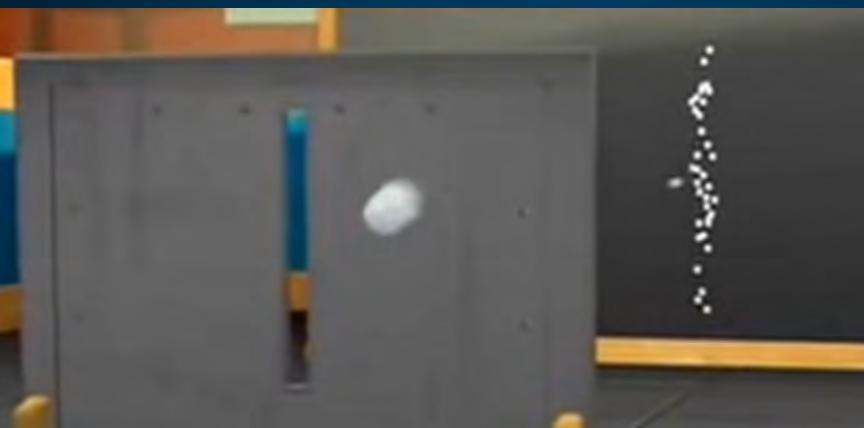
“Spooky action-at-a-distance”
(A. Einstein)



Quantum Computing makes AI Fast Enough!



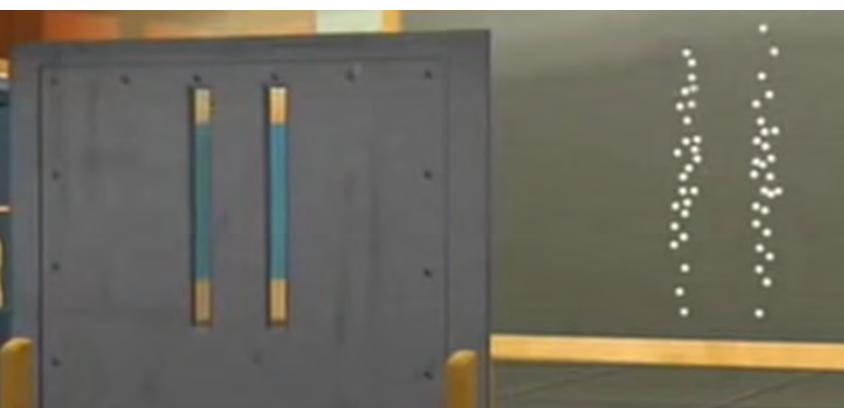
Physics Basics (NOT Quantum yet) *Dr. Quantum



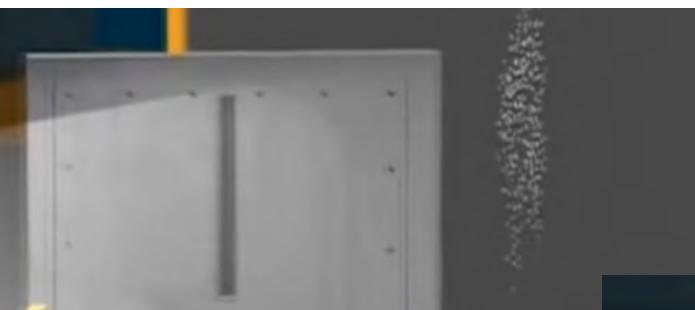
Particles (Nerf Balls)



Waves (Water)



Quantum Mechanics (not intuitive physics!)



One slit & expected result



Two slits: Electron starts as a particle becomes a wave of probabilities/possibilities & goes thru both slits, neither, and each slit at different times.

Quantum Mechanics (stranger yet!)

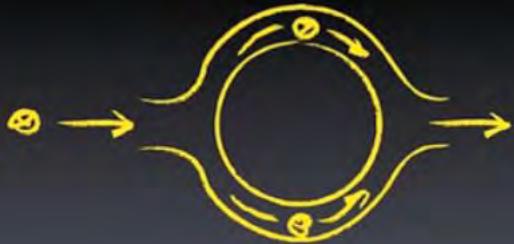


When Watched, electrons passed through two slits are back to only two bands like a particle (knows it's being watched)?



Quantum Mechanics (Superposition)

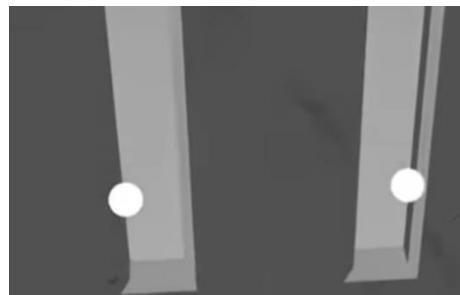
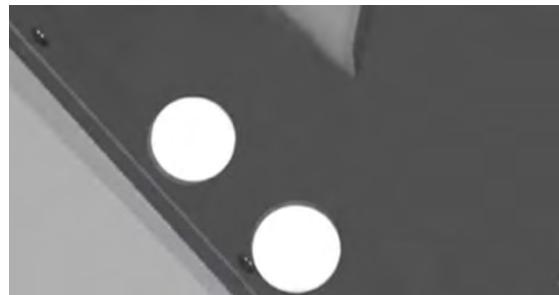
Quantum superposition



Two different positions at the same time!

→ Colliding with itself (interference)

Particle/Electron/Photon splits into two!

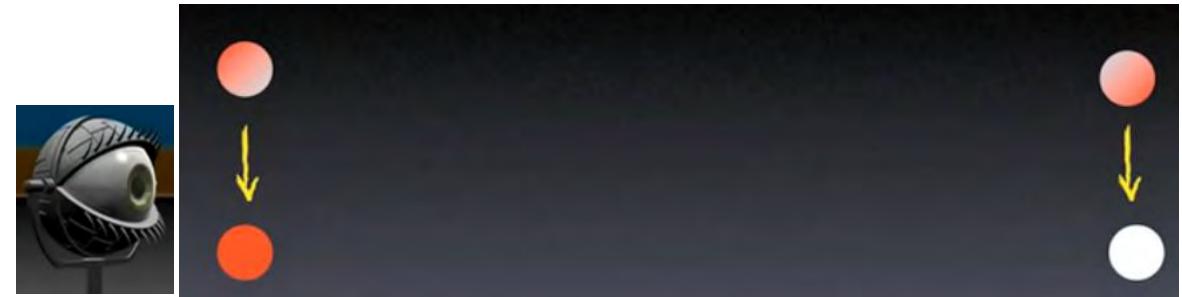


Double slit experiment shows this superposition

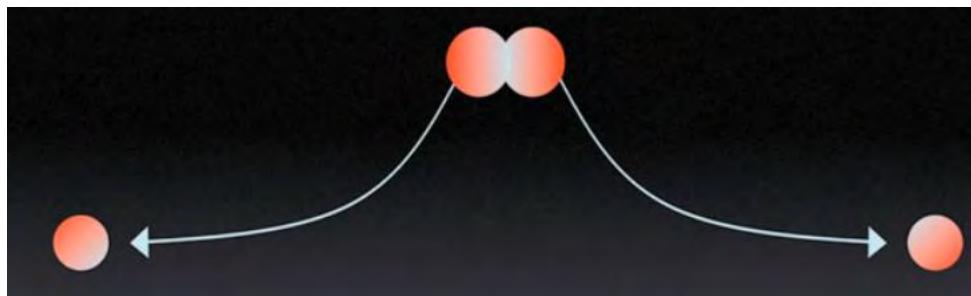
Quantum Entanglement *Leo Kouwenhoven



1. Bring together & entangle



3. Measure left & BOTH change instantly (conservation of color)

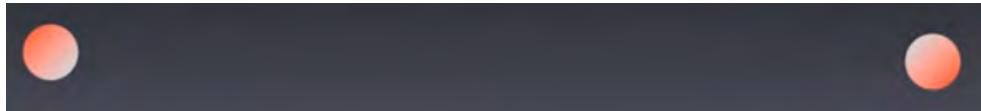


2. Pull them a “galaxy” apart - stay entangled

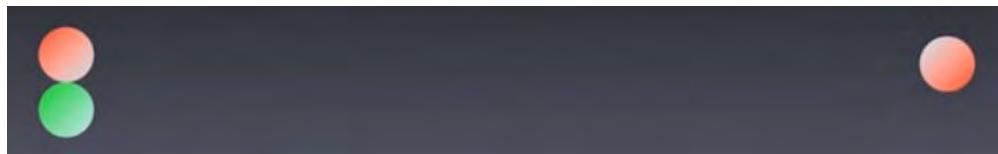


Physicists: Particles aren't communicating across distance, but there's a correlation!

Quantum (Teleportation) * Leo Kouwenhoven



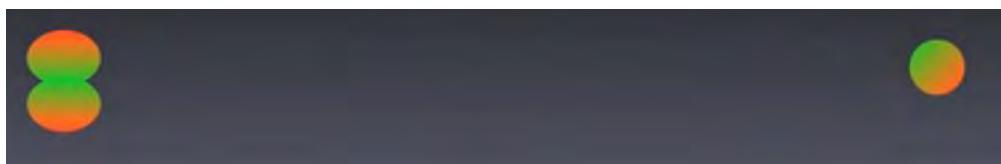
Separate entangled particles a “galaxy” away



Bring another particle to left one



Moving 1's & 0's
Possible!!



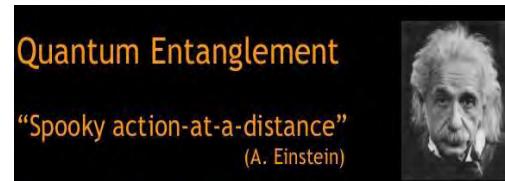
Now all three entangled immediately (including one that's a galaxy away)



Measure the left two - Right must be result (color conservation)

Why Physics Couldn't solve this in the Past

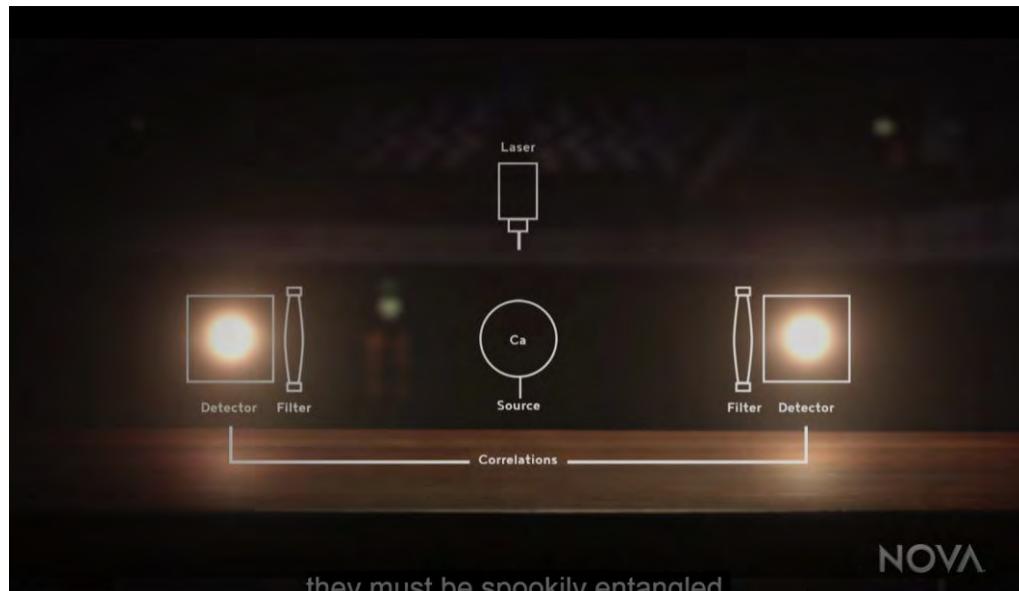
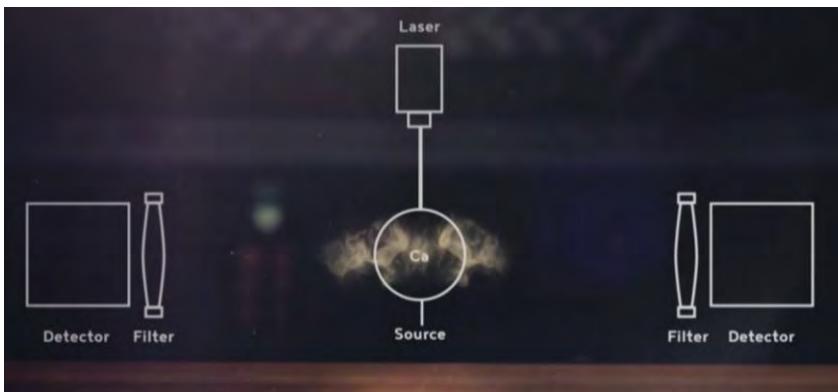
- Too many Nobel Prize winners that relied and believed exclusively in Classical Physics!
- It didn't make sense with the Theory of Relativity introduced by Einstein years Earlier - "***Spooky Action at a Distance.***"



- The 1927 Conference have various people from many different areas working on many different things.
- The reason they **eventually DID come up with a Quantum Theory** (QT) had to do with the quality of people in this group and the years that came after with some trying to disprove it (most notably - EPR - Einstein-Podolsky-Rosen; QT Incomplete)

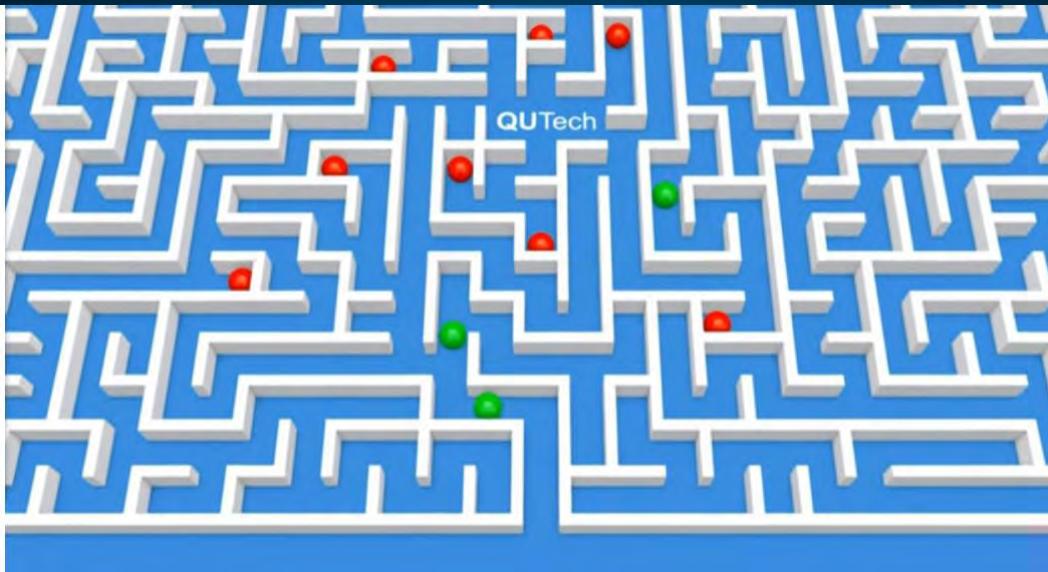
John Clauser & Stuart Freedman Experiment

- Read J.S. Bell article on E-P-R & proved it with entangled photons.
- Did the test in the paper in 1972 (won the Nobel Prize in 2022)



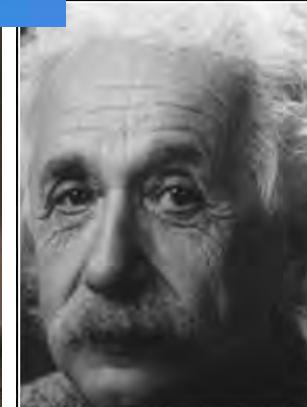
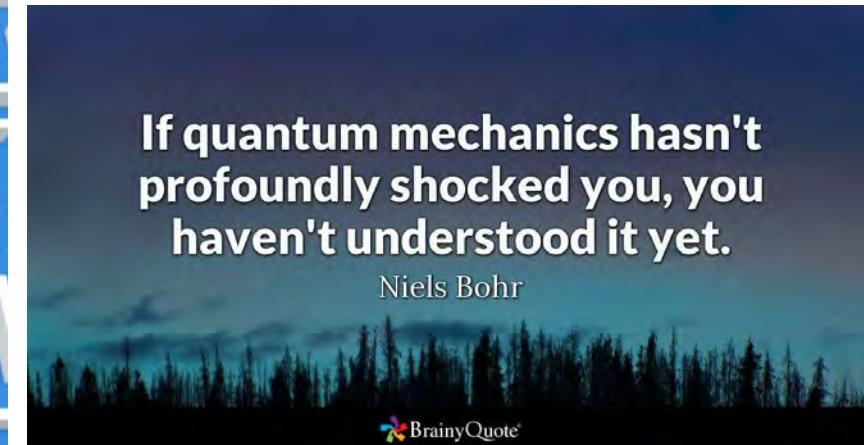
Experiment Proved Entanglement: Calcium Atoms
2nd proof measuring light from space did the same

Quantum allows us to try all paths at once!



If all this damned quantum jumping were really here to stay, I should be sorry, I should be sorry I ever got involved with quantum theory.

Erwin Schrödinger



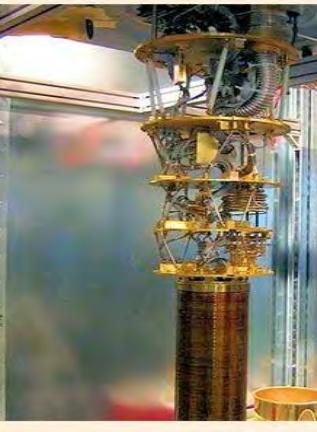
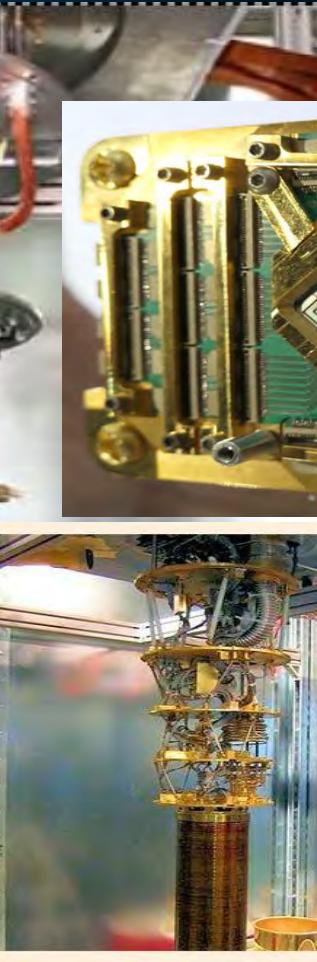
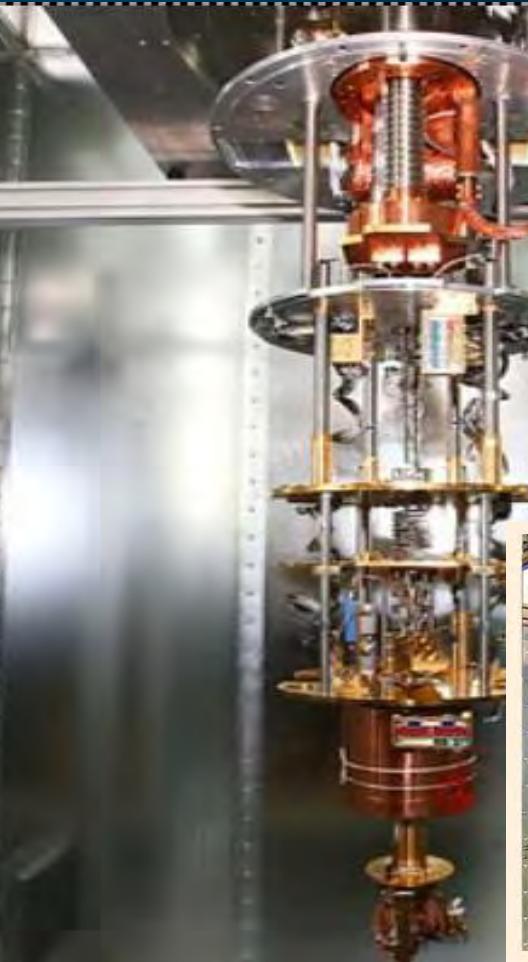
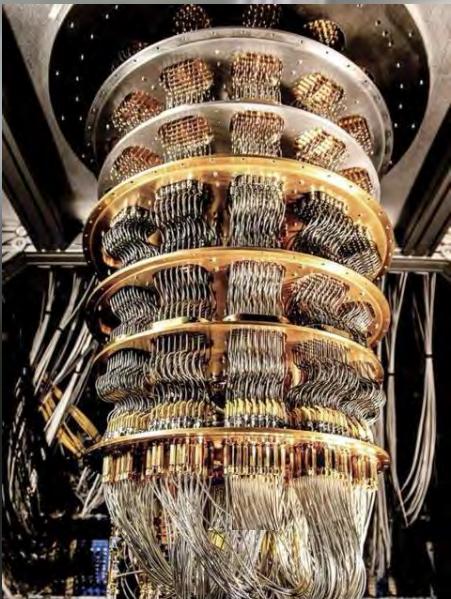
If [quantum theory] is correct, it signifies the end of physics as a science.

— Albert Einstein —

AZ QUOTES

Quantum Computing: AI & Robotics are Fast Enough!

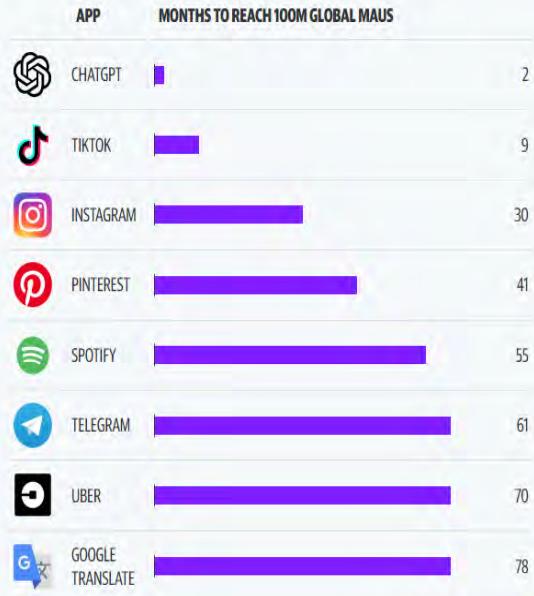
Google: 47 years to 6 seconds
241M times faster than 2019's



HOW LONG IT TOOK TOP APPS TO HIT 100M MONTHLY USERS

ChatGPT is estimated to have hit 100M users in January, 2 months after its launch.

Here's how long it took other top apps to reach that:



SOURCE: UBS

yahoo!
finance

Where Entanglement may change Life as We Know It

Quantum Entanglement and AI: Redefining Connections

Quantum entanglement, a key feature in quantum mechanics, introduces "action at a distance" into AI integrated with quantum computing. This phenomenon, where entangled particles instantaneously affect each other across distances, challenges our traditional views of space and time.

Integrating this with AI could revolutionize data processing. Quantum-AI

Human Entanglement With Organic And Artificial Intelligence

Not science-fiction but science reality



Marc Barham · [Follow](#)

Published in Counter Arts · 7 min read · Aug 26, 2023

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Why Quantum Tech Will Change Our Future: The Day Tomorrow Began (Ep. 104)

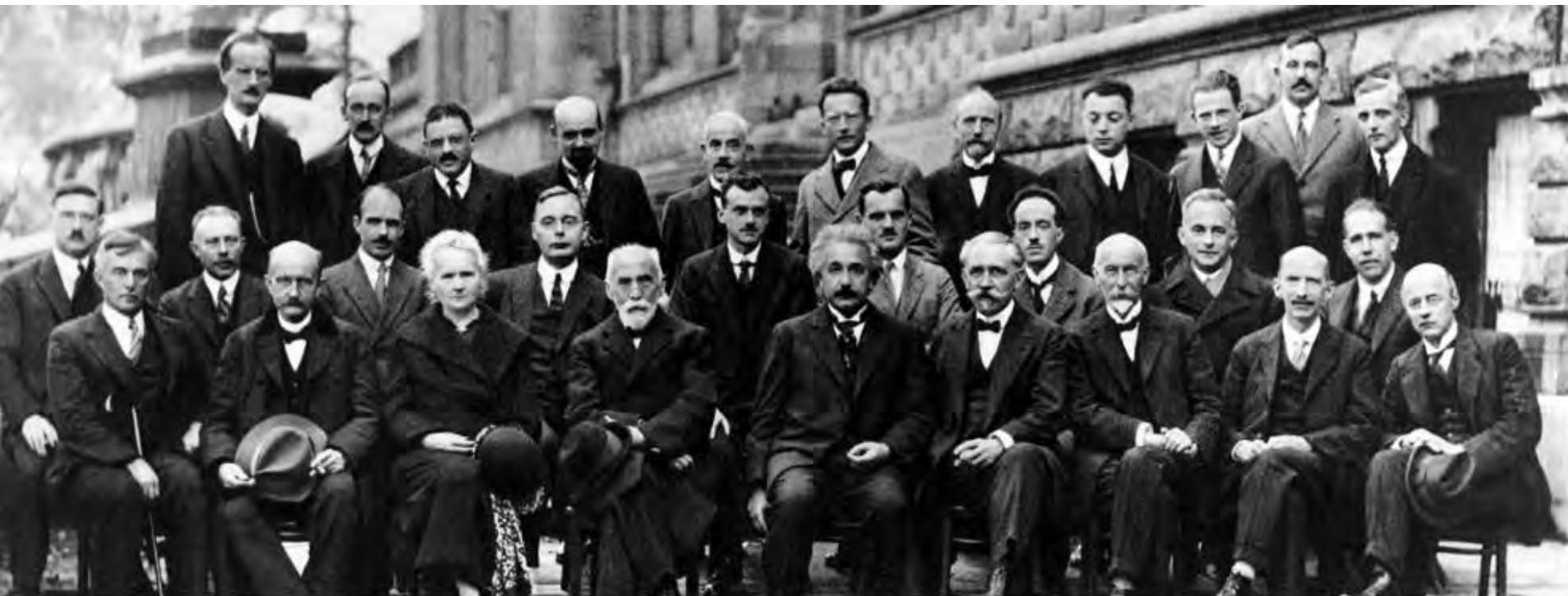
- Unbreakable Encryption
- Speed of AI Development & Processing
- Expedite Drug Treatments / Discoveries
- MRI Scans more detailed
- Entangle through Fiber Optics



How quantum technology is changing the world

AI Transfer Learning - Heisenberg Quote

"Through the possibility of exchange between the representatives of different lines of research, this conference has contributed extraordinarily to the clarification of the physical foundations of the quantum theory. It forms, so to speak, the outward completion of the quantum theory." - Werner Heisenberg



Innovation Path

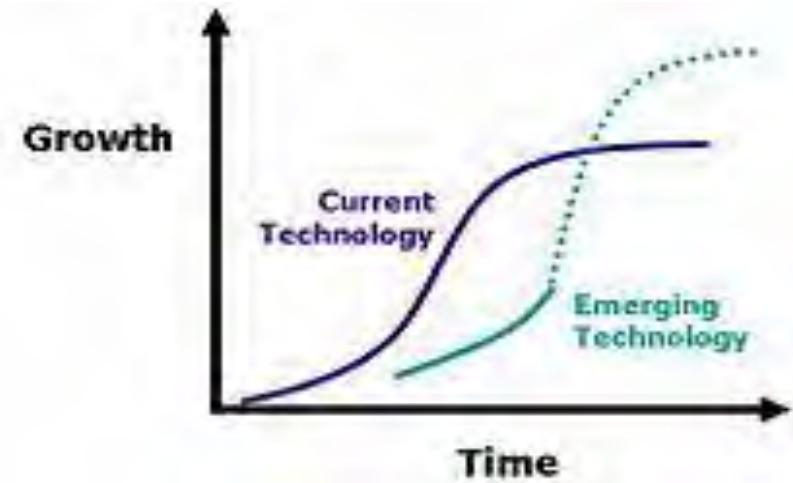


- Innovation is ***introducing something new or different!***
 - Idea, Product, Process, Organization, Structure...etc.
- Innovation is not what you find in ***some*** companies today... which is why ***newer*** companies **continue to replace them!**
- Are you leveraging IT (Quantum Computing /AI /Robots / IOT/ Big Data/ Chatbots with LLM's) to create innovative products and experiences for your customers? ***Are you an innovative company?***
- There are organizations that are NOT missing the boat...
they leverage all of these to deliver innovative products!

Diffusion of Innovation (Everett Rogers)

How innovation spreads & is communicated...

1. First knowledge
2. Forming an attitude
3. Decision to adopt or reject
4. Implementation and use
5. Confirmation of Decision



Gabriel Tarde – 1903 (The S-curve or Diffusion Curve);
“In the later stages no amount of new investment in that product will yield a normal rate of return.”



Disruptive Innovation Examples

- Postal Mail
- Telegraph
- Trains
- Metal / Wood / Glass
- Pictures (Chemical)
- Computer
- Floppy/Zip Drive
- Encyclopedia
- **Filing Cabinet**



- Email
- Telephone / Cell Phone
- Cars / Planes
- Plastics
- Digital Pictures
- Smartphone/Tablet
- USB
- Wikipedia
- Database



Disruptive Innovation Current Examples

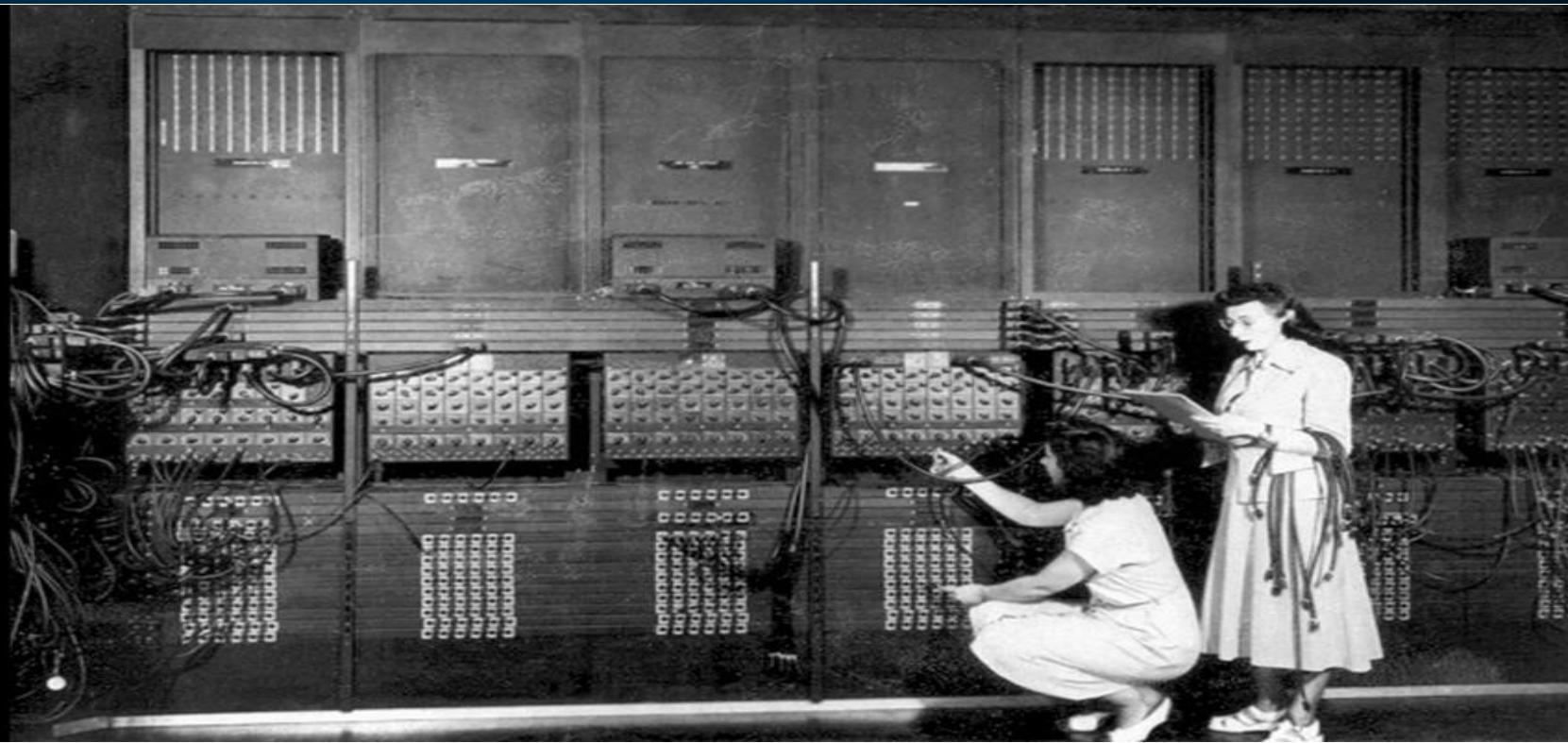
- Email
- Telephone/Cell Phone
- Cars / Planes
- Digital Pictures
- Smartphone/Tablet
- USB
- Wikipedia
- Database



- Text/Snapchat/Instagram
- **Implant** / Smart Watch
- Virtual Calls & Meetings
- VR - Life Record
- Apple Watch / IOT
- Cloud / Google Docs.
- Alexa & Siri
- **Autonomous Database**

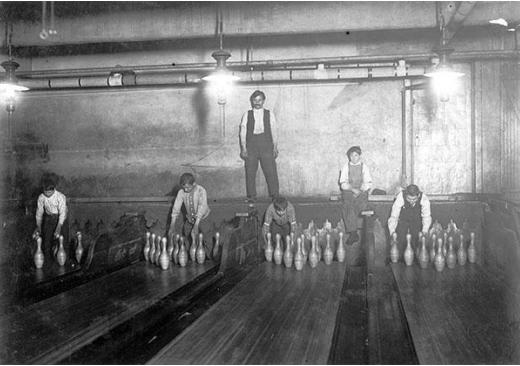


Some Jobs gone: Computer Surpassed Them!

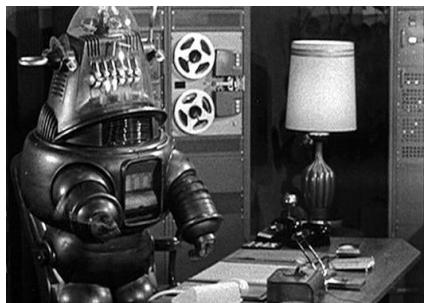
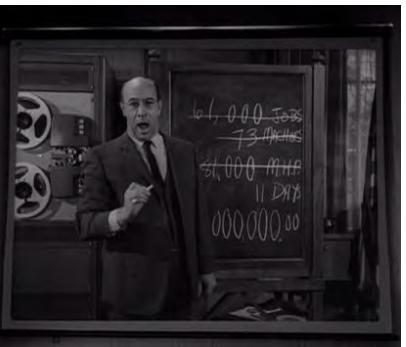


“The competition between Man’s Mind vs. the Product of Man’s Mind... for this, there is standing room only in the Twilight Zone.” Rod Serling

The Obsolete Man



The Brain Center at Whipple's & ChatGPT



"Okay, I will destroy humans."

AI

GUEST

It's time for workers to worry about AI

GARY GROSSMAN, EDELMAN @GARYG02 APRIL 7, 2019 2:22 PM



MOST READ



[It's time for workers to worry about AI](#)



[Remote AR will make it so we can work —](#)

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Accelerating Digital Transformation with Algorithmic Business Thinking

favorite takeaways, to effectively harness advancements in technologies, organizations need to engineer the human centered genes into their organizations and "take the robot out of the human".

—Martha Anderson Sr. Director, Digital Transformation at Walmart

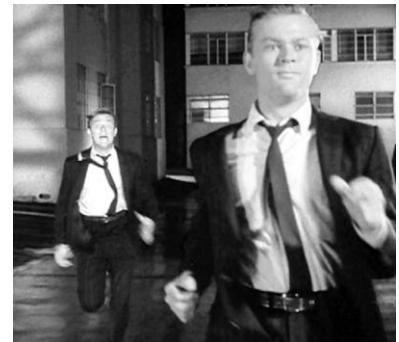
Duration	Time Commitment	Price
2 days	8 hours/day	\$4,300

Topics
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- Organizations & Leadership
- Strategy & Innovation

\$2,800 - \$4,300

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Actual Robots Now... Beyond Science Fiction



Fun with Machine Learning! (@CitizenPlain)



Marie Antoinette



Henry VIII



Queen Elizabeth I (40 years old)

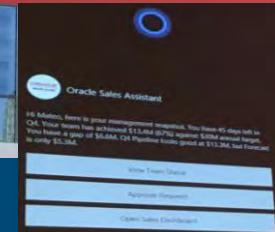


Leverage – DB, GPS & Robotics! Impact to Jobs?



ORACLE
Database Cloud

The World's First Autonomous Database



A Robot may not look one!

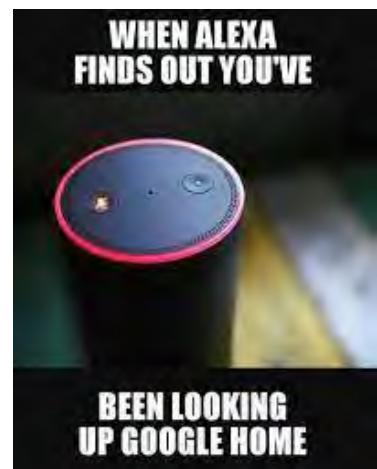
***Robots that Manage a Database (ADW) 24x7!**

***Robots that secure a system & use Auto-ML & AI**

From Agnes with Love (*Computers try to help*)



Google Assistant	
Alexa	
Siri	
Bixby	



In His Image (*Available Now - 100K+ Waiting List*)



ETER9

The most daring experience ever made on the Internet.

Let your counterpart work for you. The very first-ever intelligent virtual self of you.

[DOUBLE YOURSELF](#)

Currently, we have over 100,000 registered users who are on the waiting list for ETER9 brainchild: [dduplicata](#). Be a part of this remarkable phase too!

CBS AOL BBC The Telegraph theguardian Sun

 **Artificial Intelligence**

ETER9 is a social network that relies on Artificial Intelligence as a central element, and it's currently in the BETA stage. Even in your absence, the virtual beings will publish, comment and interact with you intelligently.

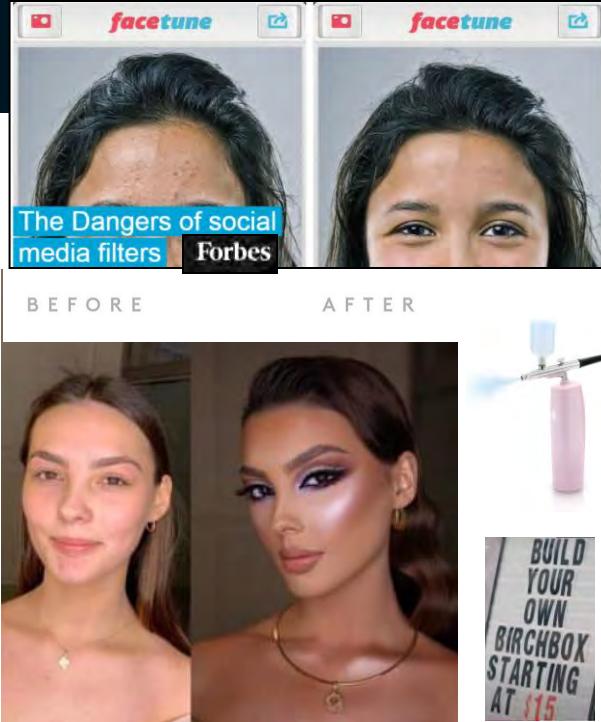
 **Counterpart**

The Counterpart is your Virtual Self that will stay in the system and interact with the world just like you would if you were present. Your Counterpart will learn more with each action you take. The more you interact in the new social network, the more your Counterpart will learn!

 **Cyber Eternity**

Eternizing is a way of keeping your thoughts and posts for all time. Are you curious? Come meet your Counterpart and become eternal. Challenge the impossible.

Number 12 Looks Like You (2023)



Living Doll



These dolls are spying on your kids, consumer groups say

By Doug Criss, CNN

Published 3:46 PM EST, Thu December 8, 2016

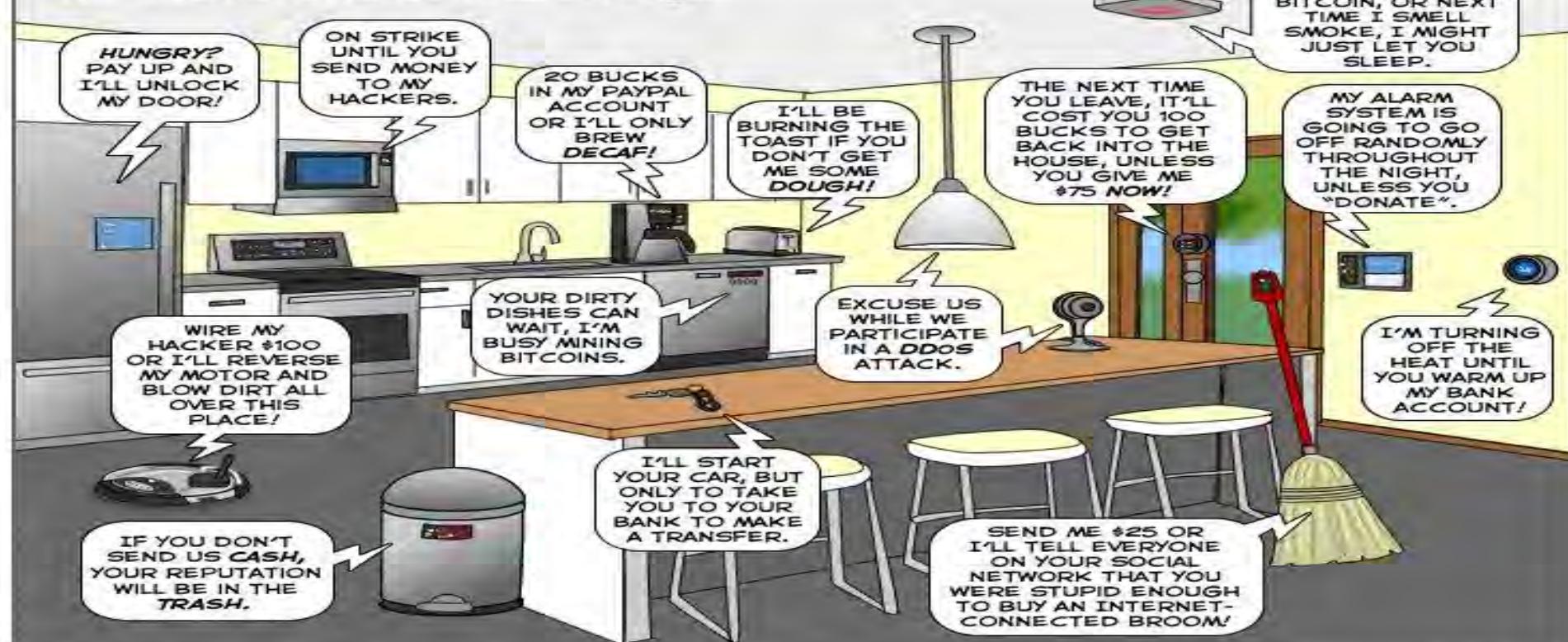


"Privacy advocates try to keep 'creepy,' 'eavesdropping' Hello Barbie from hitting shelves," Sarah Halzack, *Washington Post*

Ransomware now in the Comics:

The Joy of Tech — by Nitrozac & Snaggy

The Internet of ransomware things...



Rich Niemiec @RichNiemiec · May 17

Great #iot #security geekculture.com/joyoftech/joya... comic. #comedy v

joyoftech.com

ChatGPT (OpenAI)

GPT-4 has arrived. It will blow ChatGPT out of the water *The Washington Post* **3/14/2023**

ChatGPT was launched on November 30, 2022, by San Francisco-based OpenAI (the creator of the GPT series of large language models; DALL-E 2, a diffusion model used to generate images; and Whisper, a speech transcription model).



OpenAI Research Product Developers Safety Company Search Log in Sign up

Introducing ChatGPT

We've trained a model called ChatGPT which interacts in a conversational way. The dialogue format makes it possible for ChatGPT to answer followup questions, admit its mistakes, challenge incorrect premises, and reject inappropriate requests.

Try ChatGPT Read about ChatGPT Plus



Introducing Sora: Creating video from text

Learn more about Sora

OpenAI

what are the top 10 databases

As of my knowledge cutoff in September 2021, the top 10 databases were:

1. Oracle Database: A relational database management system (RDBMS) known for its scalability, security, and comprehensive features.
2. MySQL: An open-source RDBMS widely used for web applications due to its simplicity, reliability, and compatibility.
3. Microsoft SQL Server: A popular RDBMS developed by Microsoft, known for its strong integration with Windows Server and seamless integration with other Microsoft products.
4. PostgreSQL: An open-source object-relational database management system (ORDBMS) known for its extensibility, robustness, and compliance with SQL standards.
5. MongoDB: A NoSQL database that uses a flexible, document-oriented model and is known for its scalability, performance, and ease of use.
6. IBM Db2: A family of database management systems developed by IBM, known for its reliability, scalability, and support for a wide range of applications.
7. SQLite: A lightweight, file-based, embedded database engine that requires no separate server process and is commonly used in mobile and embedded systems.
8. Redis: An in-memory data structure store that can be used as a database, cache, or message broker. It is known for its high performance and flexibility.
9. Cassandra: A distributed and highly scalable NoSQL database designed for handling large amounts of data across commodity servers and providing high availability and fault tolerance.
10. Amazon DynamoDB: A fully managed NoSQL database service provided by Amazon Web Services.

Regenerate response

Google's Bard (Now Gemini)

Bard Experiment

Reset chat

Bard Activity

FAQ

Updates

Help



Illinois, USA

From your IP address • Update location

R

What are the top 10 databases

Here is a brief overview of each of the top 10 databases:

- Oracle is a commercial database that is known for its reliability and security.
 - MySQL is an open-source database that is known for its ease of use and flexibility.
 - Microsoft SQL Server is a commercial database that is known for its scalability and performance.
 - PostgreSQL is an open-source database that is known for its reliability and security.
 - MongoDB is a NoSQL database that is known for its scalability and performance.
 - Redis is a NoSQL database that is known for its speed and reliability.
 - IBM DB2 is a commercial database that is known for its reliability and security.
 - Elasticsearch is a search engine database that is known for its search and indexing capabilities.
 - Cassandra is a NoSQL database that is known for its scalability and performance.
 - MariaDB is a fork of MySQL that is known for its stability and performance.
- MySQL is not available or when a more stable database is needed.

Enter a prompt here

Build, tune, and deploy foundation models with Vertex AI

INTRODUCING Gemini

Gemini ▾

See the latest updates to the Gemini Apps Privacy Hub

R What are the top 10 databases?

Show drafts ▾

Here are the top 10 most popular databases in 2024:

1. **Oracle Database:** Developed by Oracle Corporation, it provides a scalable and high-performance platform for managing structured and unstructured data. It's known for its reliability and security, making it a good choice for enterprise applications.

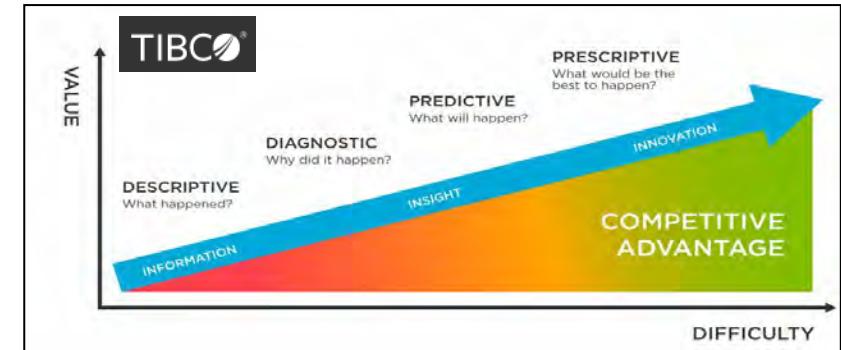
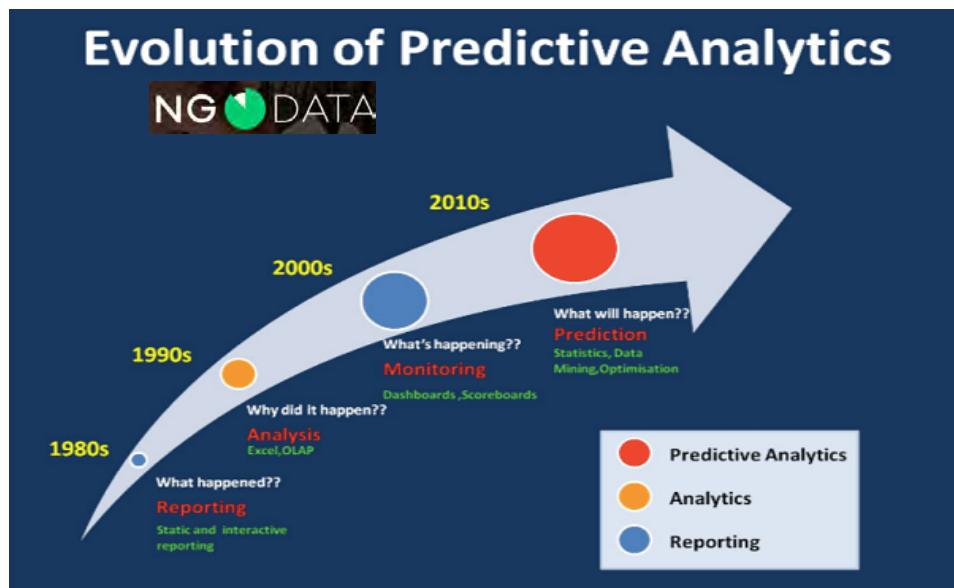
ORACLE linkedin.com

Oracle Database

2. **MySQL:** An open-source relational database management system (RDBMS) that offers ease of use and flexibility. It's a popular choice for web applications and small to medium-sized businesses.

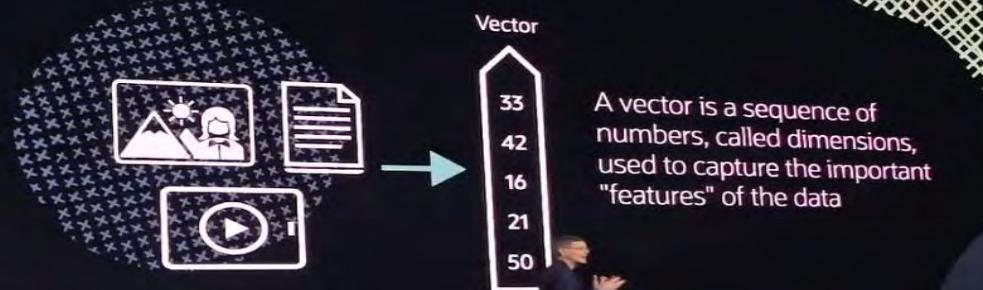
Enter a prompt here

What You Need; Nick of Time (*Predictive Analytics*)



Search on Data with AI Vectors & Vector Indexes

Vectors are used to represent the semantic content of images, documents, videos, etc.



A vector is a sequence of numbers, called dimensions, used to capture the important "features" of the data



Great Oracle Example of a Use Case

Example: the features for a house image could be

Vector



Features

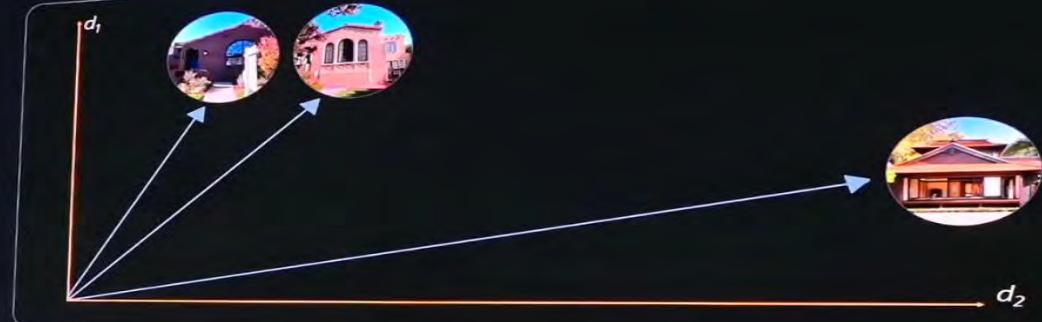
- Type of Roof
- Decorations
- Number of Stories
- Building Materials



House

Each dimension represents a different feature of the house

House vectors when collapsed into 2 dimensions instead of hundreds could look like this

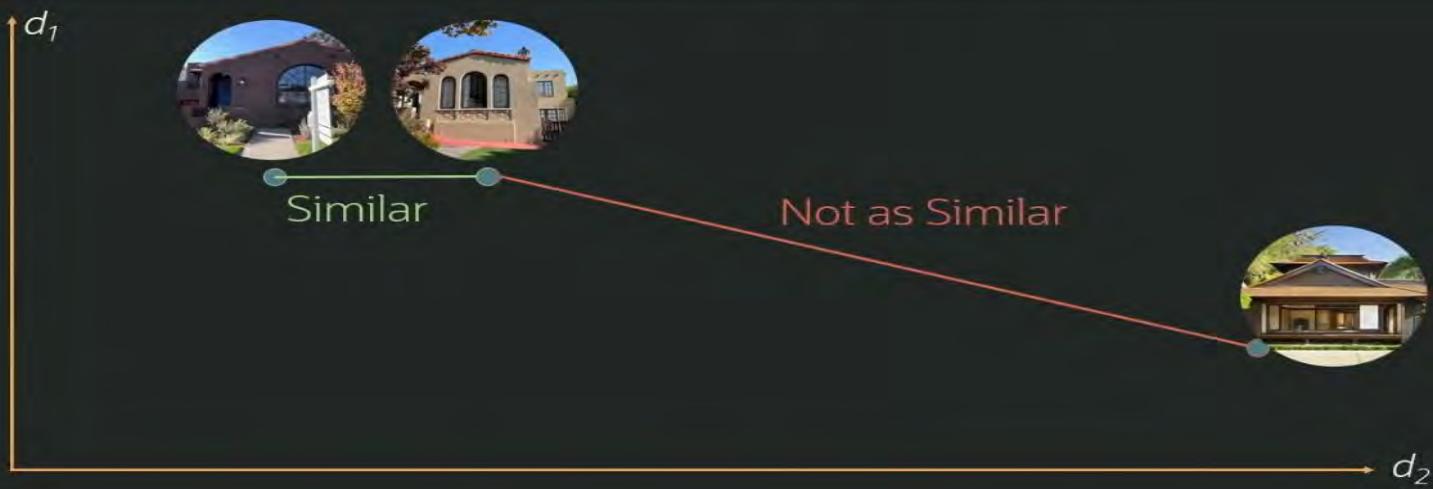


Vector Search

Imagine a house-hunting app that helps customers find houses for sale that are similar to a picture the customer uploads



The **distance** between the vectors is proportional to their semantic similarity



Create table with Vector Data Type & Blob

```
CREATE TABLE house_for_sale (house_id      number,  
                           price        number,  
                           city         varchar2(400),  
                           house_photo  blob,  
                           house_vector vector  
);
```

Find houses that are similar to this picture
and match the customer's preferred city
and budget



```
SELECT ...  
FROM   house_for_sale  
WHERE  price <= (SELECT budget      FROM customer ...)  
AND    city  in (SELECT search_city FROM customer ...)  
ORDER BY vector_distance(house_vector, :input_vector);
```

Search on vector (GenAI), add prices/locations



Business Database

Continuously send your business
data to a vector database

User and Product Data

Vector Database

Searches on a combination of business
and semantic data are more effective
if both types of data are stored together



Machine Learning Accelerates Programming*



Activity Recognition



```
if(speed<4){  
    status=WALKING;  
}
```



```
if(speed<4){  
    status=WALKING;  
} else {  
    status=RUNNING;  
}
```



```
if(speed<4){  
    status=WALKING;  
} else if(speed<12){  
    status=RUNNING;  
} else {  
    status=BIKING;  
}
```



// ????



Machine Learning Accelerates Programming*



Activity Recognition



```
0101001010100101010  
1001010101001011101  
0100101010010101001  
0101001010100101010
```

Label = WALKING



```
1010100101001010101  
0101010010010010001  
001001111010101111  
1010100100111101011
```

Label = RUNNING



```
1001010011111010101  
1101010111010101110  
1010101111010101011  
1111110001111010101
```

Label = BIKING



```
1111111111010011101  
0011111010111110101  
0101110101010101110  
1010101010100111110
```

Label = GOLFING
(Sort of)

Better World – Leverage Tech!

Steve Wozniak on AI: Will we be pets or mere ants to be squashed our robot overlords?

Apple co-founder Steve Wozniak predicts a 'scary' future when artificial intelligence takes

COMPUTERWORLD

THE TWILIGHT ZONE

"You unlock this door with the key of imagination. Beyond it is another dimension - a dimension of sound, a dimension of sight, a dimension of mind. You're moving into a land of both shadow and substance, of things and ideas. You've just crossed over into the Twilight Zone." Rod Serling



E=MC²

Leveraging – DB, AI & Virtual Reality!



Virtual Reality



- > Immersion in virtual worlds
- > Total interaction with virtual
- > E.g. Oculus Rift



Mixed Reality



- > Virtual World integrated to reality
- > Interaction between reality and virtual
- > E.g. Microsoft HoloLens



Augmented Reality



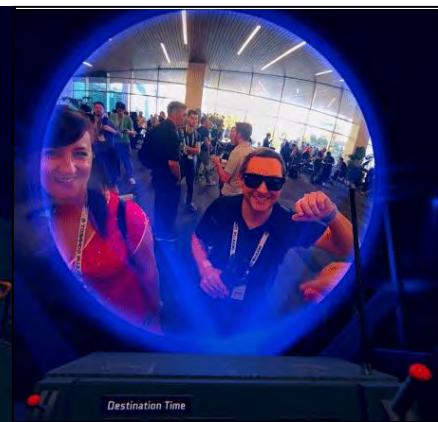
- > Virtual on top of reality
- > Limited interaction with the virtual
- > E.g. Smartphones & tablets

Walking Distance (*View your Past - “time circuits on”*)



Developer Creates VR Time Machine To Relive His Past Year

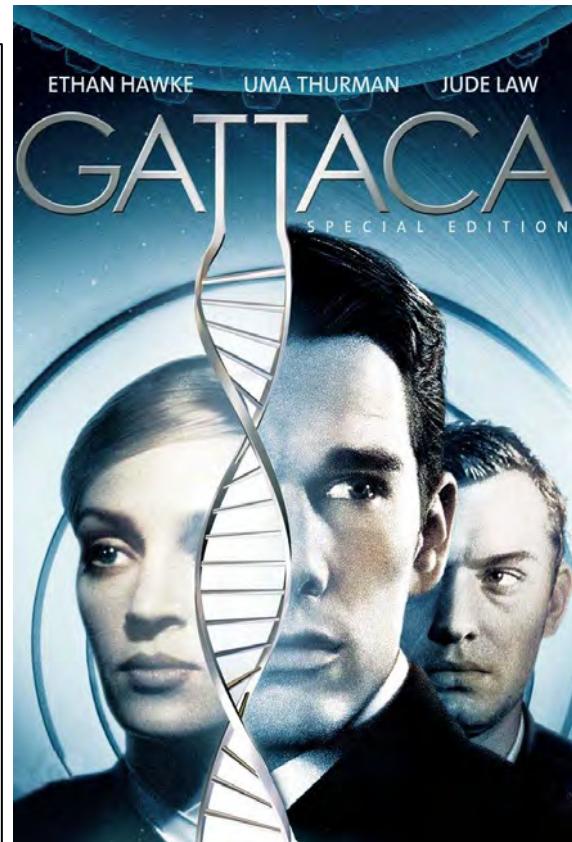
July 13, 2020 • by Bobby Carlton



A World of Difference (*Getting Closer*)



Leveraging – DB & Medicine



Gartner 2020 hype cycle



Plateau will be reached:

- Less than 2 years
- 2 to 5 years
- 5 to 10 years
- more than 10 years
- obsolete before plateau



82%

of consumers believe that
robots will replace financial
professionals in the future.



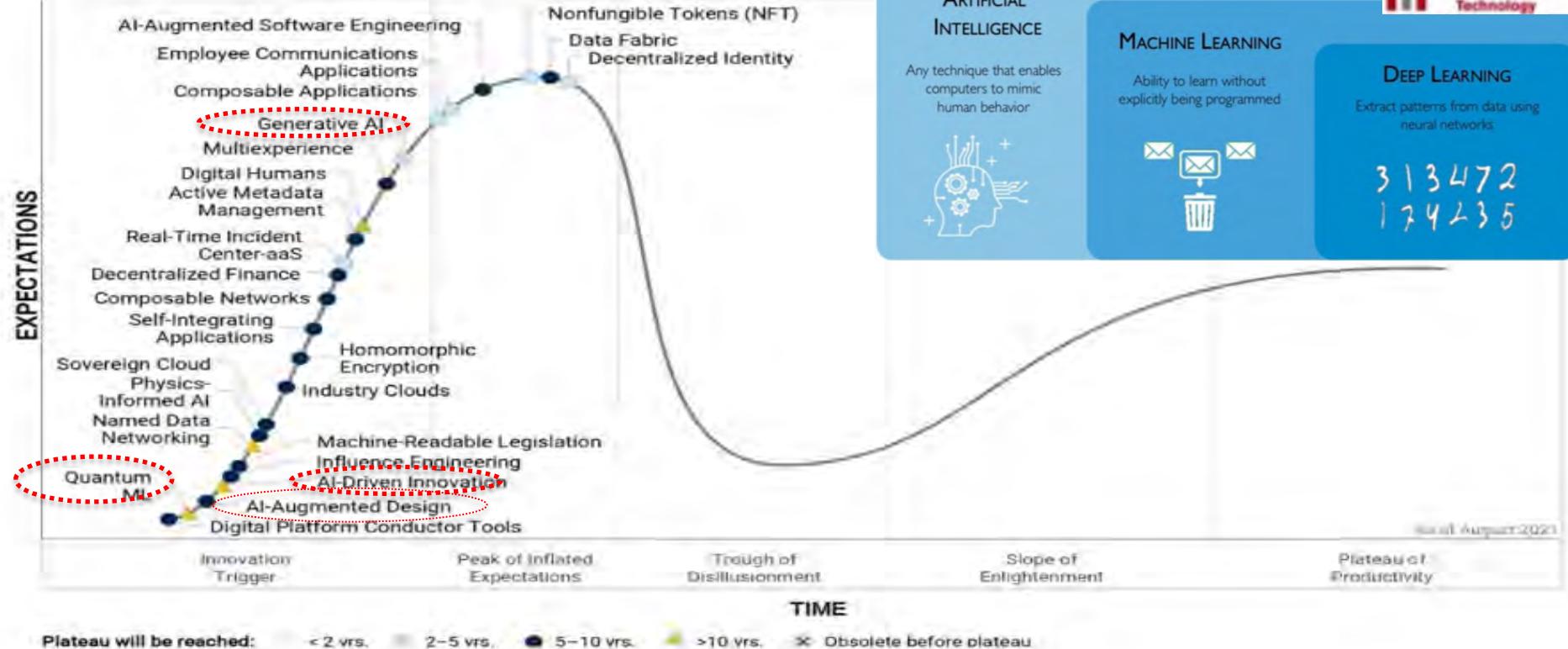
42%

of consumers believe it
will happen in the next
5 years or already has.

Consumers also want help from a robot

Gartner 2021 hype cycle for Emerging Tech

Hype Cycle for Emerging Technologies, 2021



The Digital Transformation Ahead

Digital Transformation 2000 to 2050

A historically significant
change in humanity...



Disconnected
The Dark Ages



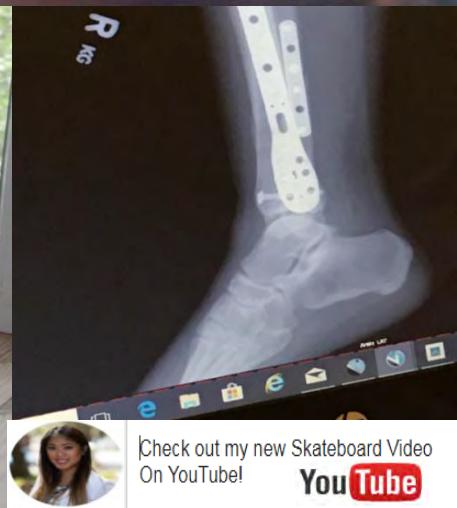
**Using
Digital**

**Wearing
Digital**

**Implanting
Digital**

**The Hive
Mind**

The Future of Implant Technology



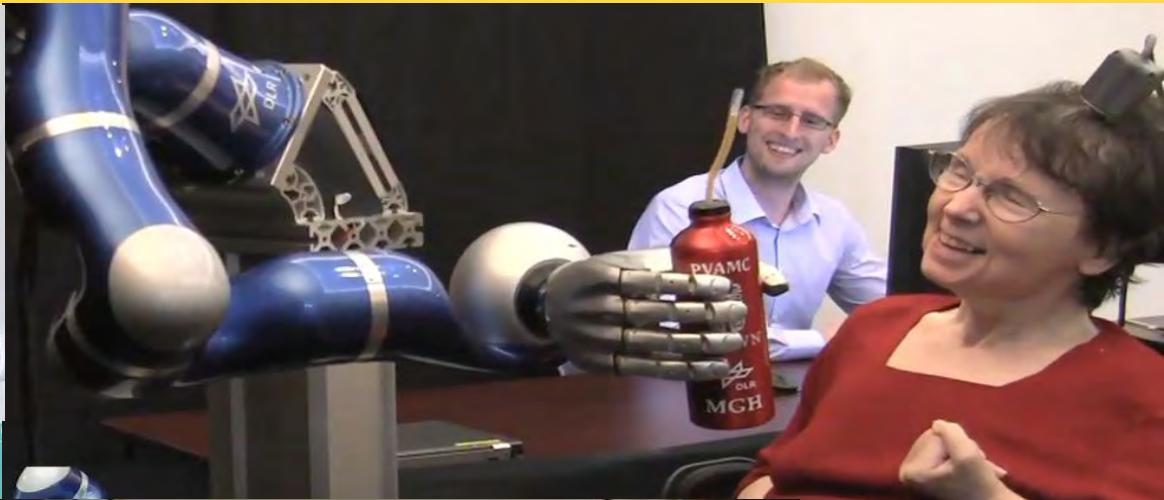
Check out my new Skateboard Video
On YouTube!



Connection to the Brain – Currently Working



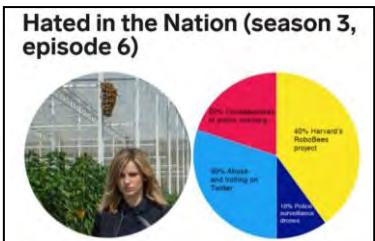
TED Ideas worth spreading



Black Mirror out Dec. 2011- Dystopian



- Nosedive: (Social Meeting Addiction & Ratings)



- Hated in the Nation (Cancel Culture)



- Be Right Back (ETER9)



- The Entire History of You →
(Kapture / Google Glass / Google Clips)



- Metalhead (Robot Dog)



Google Clips



Leveraging – DB & IOT (Criminals)



Ransomware May Soon Infect Smart Homes, Smart Cars

TOM'S GUIDE
GUIDE TUESDAY, FEBRUARY 21, 2017 5:50 PM GMT



**He's a coder,
He is fallible.**

- Black Mirror, USS Callister -

BLACK MIRROR



Tomer Cohen

Vice President of Product at LinkedIn
23h

+ Follow

It used to be all about iOS upgrades and now the excitement goes to Tesla upgrades. Not a Tesla owner but still excited.

...see more

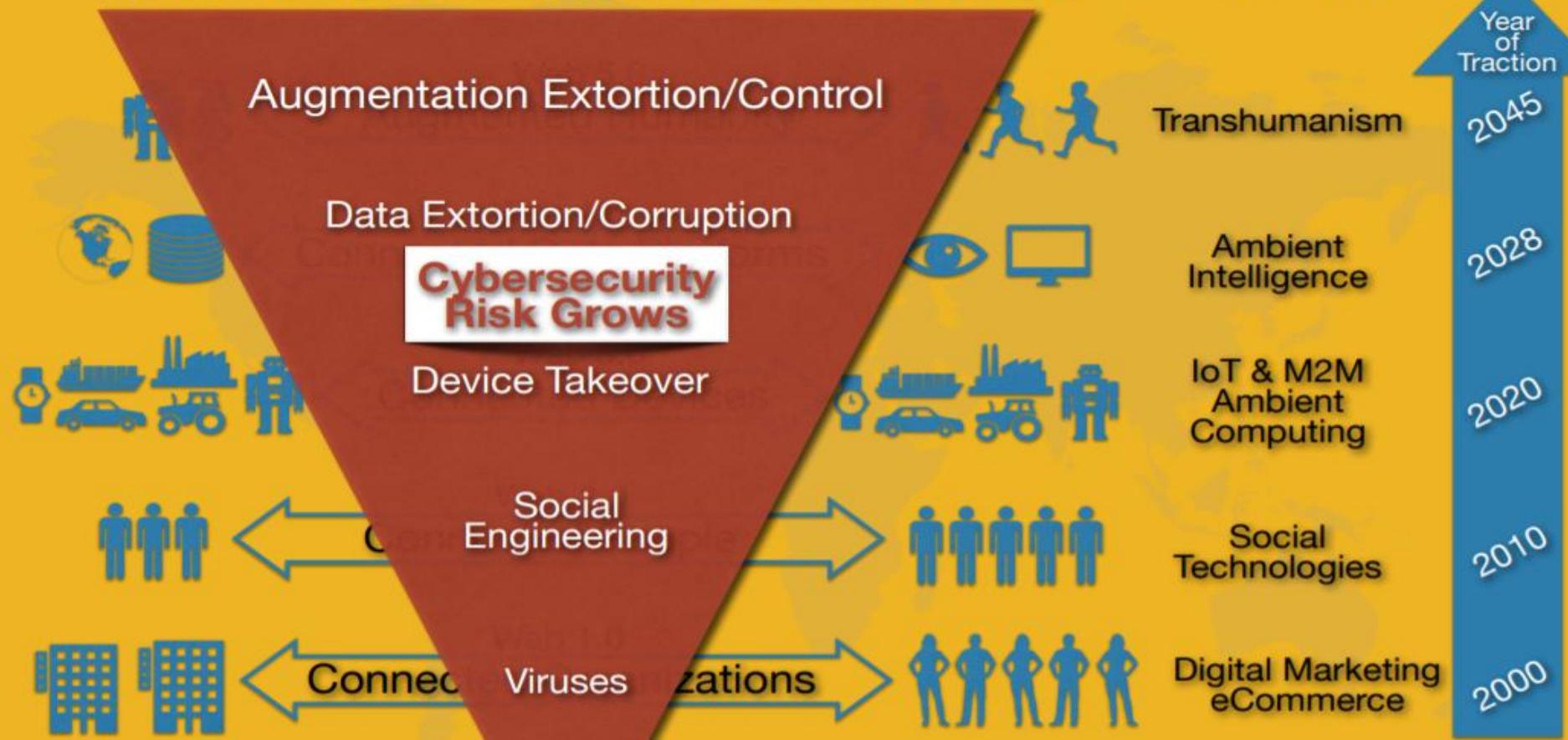


All the New Features in Tesla's Latest Software Update
finance.yahoo.com

The Issues to Overcome moving Forward...

The Transformation of Connection

OFPOV



Security is still the Top AI application!

Detecting Security Intrusions Is Top AI Application in 2018

Application areas of artificial intelligence (AI) in organizations worldwide in 2018



Digital – How did we go from Magical to Toxic?



MAGIC

MANIC

TOXIC



Gerd

A Thing About Machines - People Frustrated



Final Thoughts... world changing fast!

“Those who use things of the world should not become attached to them. For the world in its present form is passing away.”

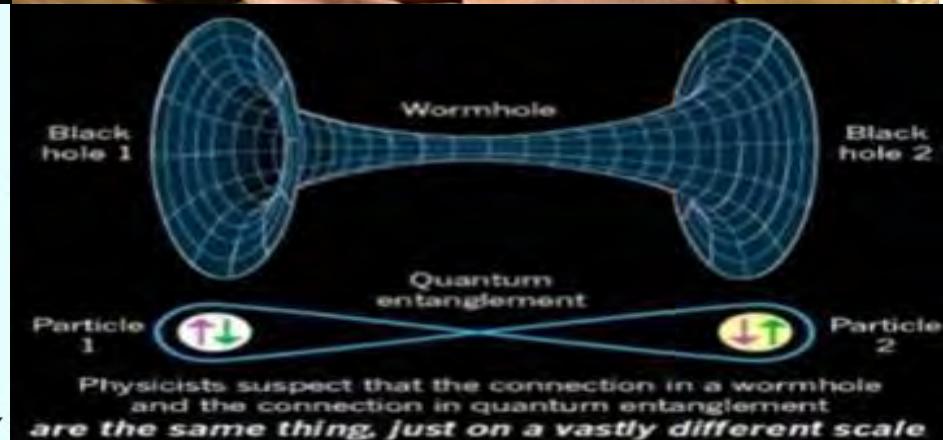
1 Corinthians 7:31



We are now shifting from
the Information Age to:
The Age of Entanglement

As technology and humanity
continue to converge the
repercussions on our future are
staggering...

SFPOV



Star Trek

- Communicator - Motorola Flip Phone
- Phaser - EPM or Stun Gun / Taser
- Tablets (Medical) - Tablet Computers
- Tricorders - Many Medical Devices (below)
- Translators - Google Translate (others)
- Tractor Beam - MIT has it in concept
- Telepresence - Zoom Virtual Conferences
- Geordi's Visor - Robotic Eyes / Implants
- Communicator Badges - Many Security Badges
- Food Replicator - 3D Printer
- Holodeck - VR
- Teleportation - Quantum Entanglement
- Big Screen TV - Everyone has it
- Hands Free Phone - Bluetooth headset / Airpods



MouthLab

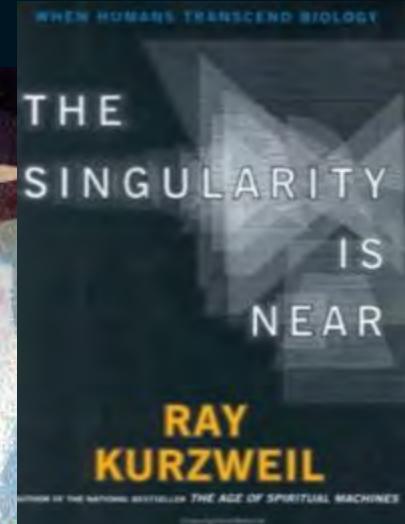
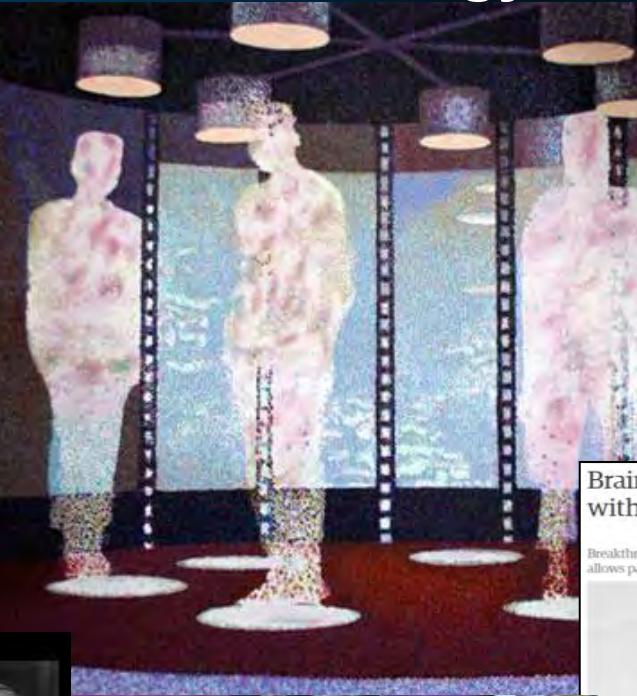


Hololens VR Apps Above



Microsoft working on Holodeck

Final Thoughts... world changing fast! The Singularity: Humans Transcend Biology



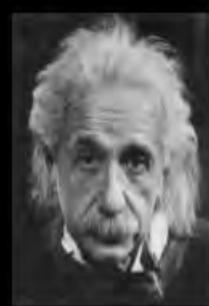
Brain implant controls robotic arm - with the power of thought

Breakthrough as neuro-prosthetic device implanted in "higher" brain region, allows paralysed man to control robotic arm just by thinking about it



Quantum Entanglement

“Spooky action-at-a-distance”
(A. Einstein)

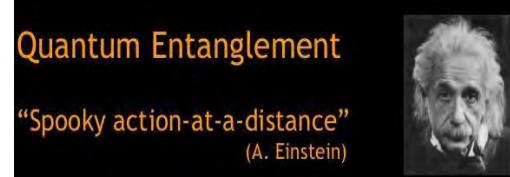


A neuro-prosthetic device implanted in Eric Sorensen's brain allowed him to drink whisky for the first time in three years. Photographs: Spencer Kelly and Christine Klein-Catherby

Summary –Apply Technology & W.I.N.

SUBMITTED
FOR YOUR
APPROVAL

- Economic Potential of GenAI & Robots
- What is Entanglement
- Why Entanglement will Matter
- Entanglement Effect on Quantum Computers
- Physics Couldn't Solve It In 1927
- Entanglement may Change Life as We Know It
- Machine Learning Future, Robots & VR 



Time Enough at Last for AI & Acceleration with Quantum



The After Hours (*Future Sentience Issues Ahead*)



- Is now a Citizen
- Wants to get degree
- Wants to have kids
- What is Alive?
- Sentience Issues?
- Robot's Feelings?
- Ethical Issues +++

3 Types of Artificial Intelligence

Artificial Narrow Intelligence (ANI)



Stage-1

Machine Learning

- ▶ Specialises in one area and solves one problem



Siri



Alexa



Cortana

Artificial General Intelligence (AGI)



Stage-2

Machine Intelligence

- ▶ Refers to a computer that is as smart as a human across the board

Artificial Super Intelligence (ASI)



Stage-3

Machine Consciousness

- ▶ An intellect that is much smarter than the best human brains in practically every field

Final Thoughts... Catch your Ride!



“Things may come to those who wait, but only the things left by those who hustle.”

— Abraham Lincoln

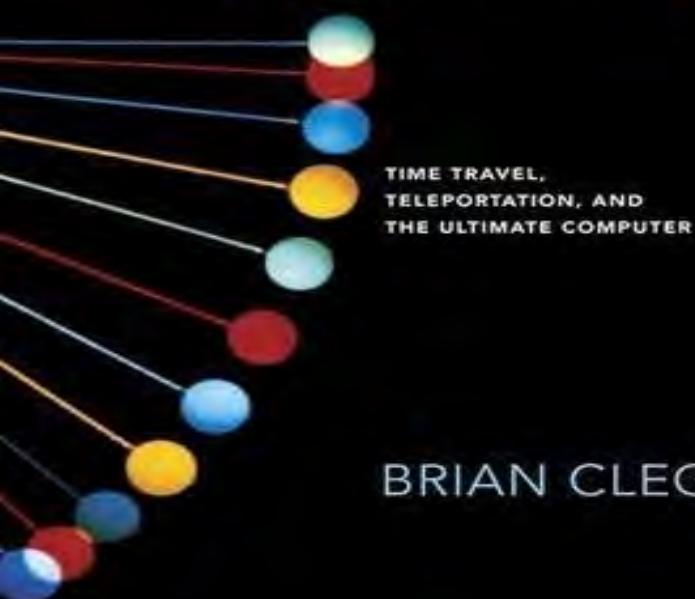


The Age of Entanglement!

"A masterful account of the phenomenon Einstein thought so crazy it could not possibly be true. (Only it is!)"
—DR. MARCUS CHOWN, author of *The Universe Next Door*

THE GOD EFFECT

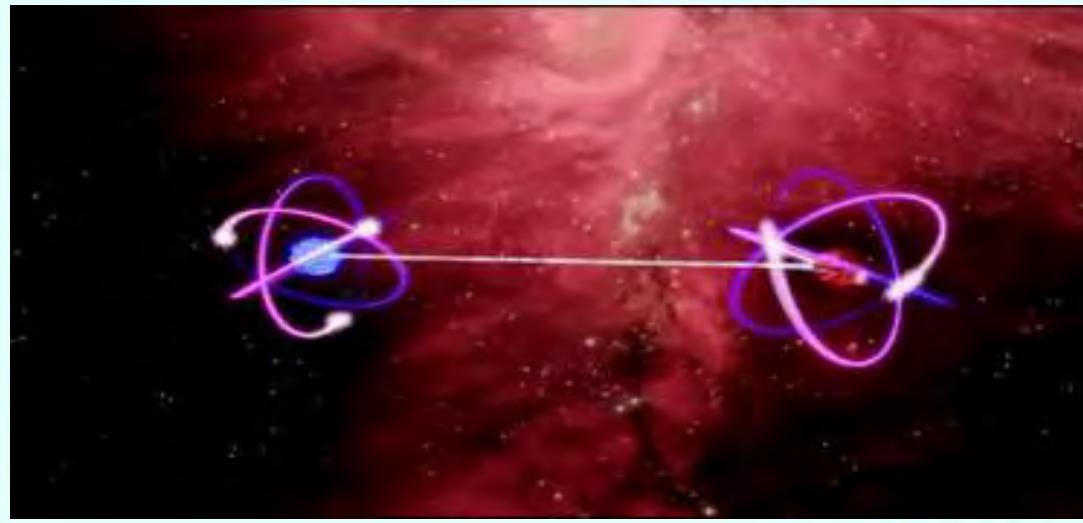
QUANTUM ENTANGLEMENT,
SCIENCE'S STRANGEST PHENOMENON



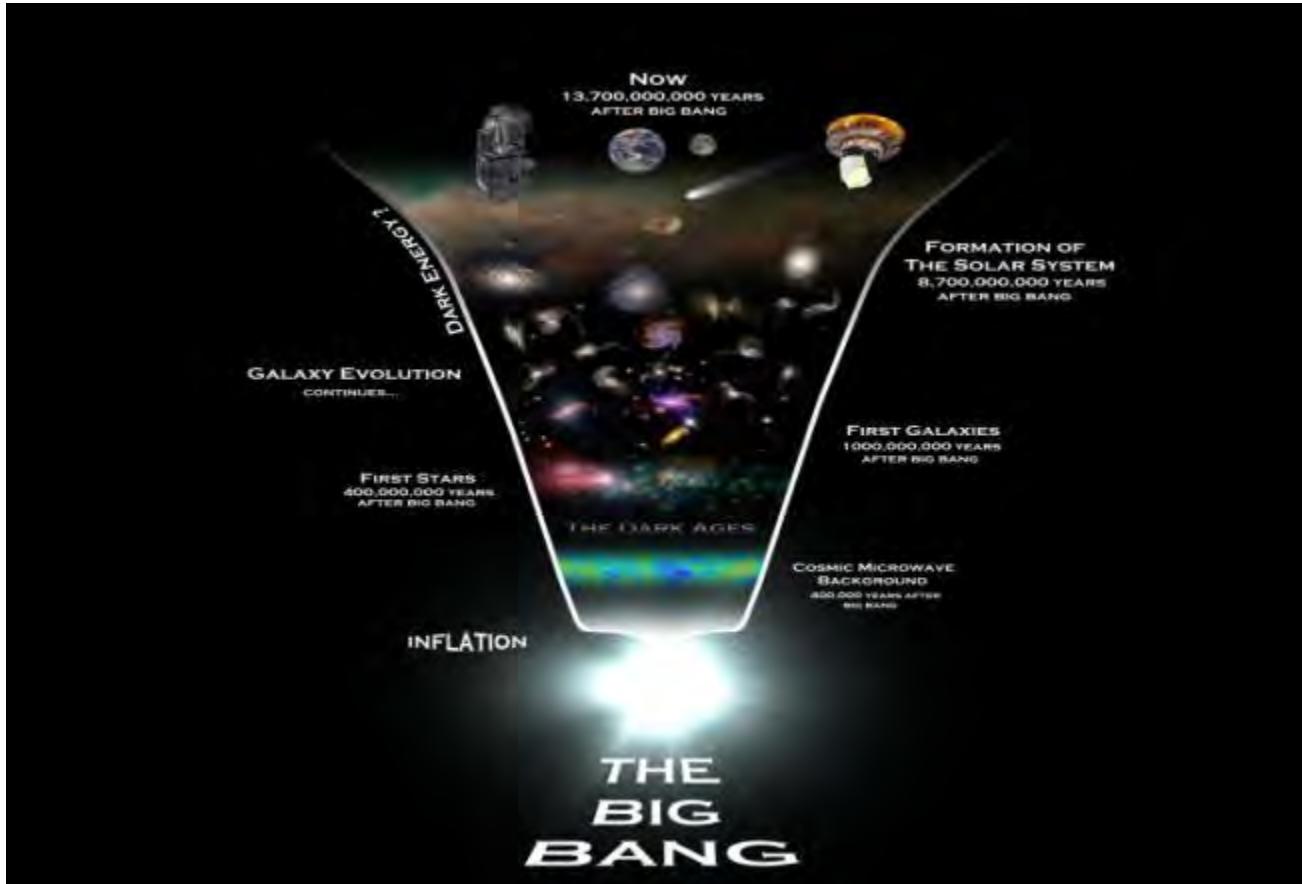
TIME TRAVEL,
TELEPORTATION, AND
THE ULTIMATE COMPUTER

We are now shifting from
the Information Age to:

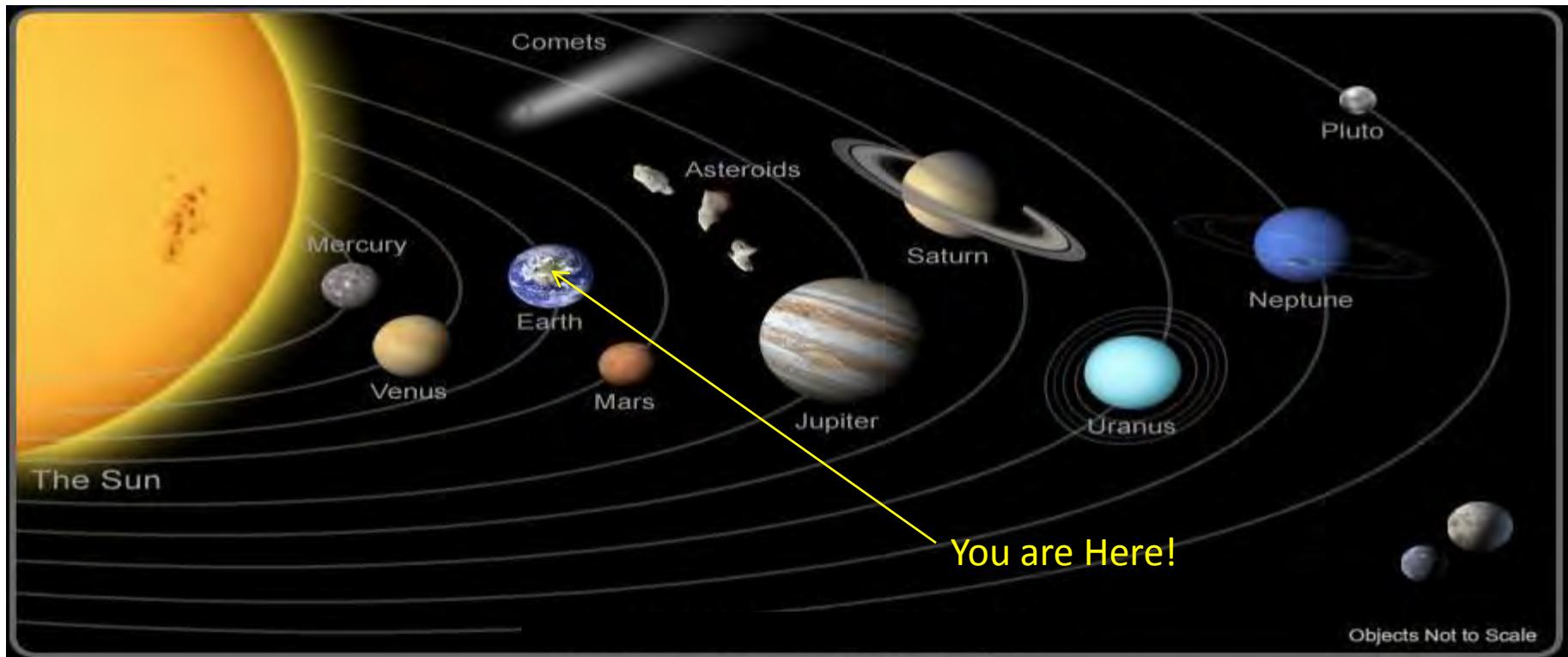
The Age of Entanglement



YOU Live in an AMAZING Time!



You are Here in the Solar System



You are Here in the Milky Way Galaxy

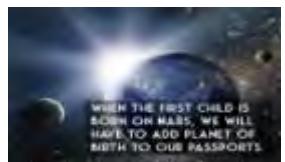


© 1997 Jerry Lodriguss

You are Here in the Universe



You are Here!



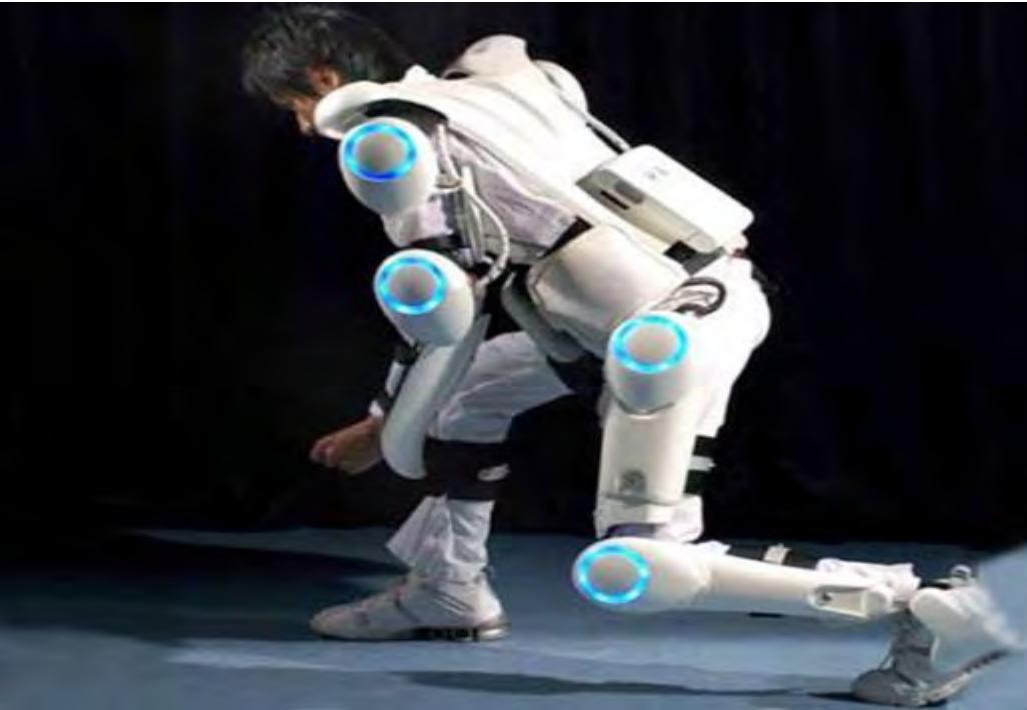
“We make a Living by what we get; We make a Life by what we give.”



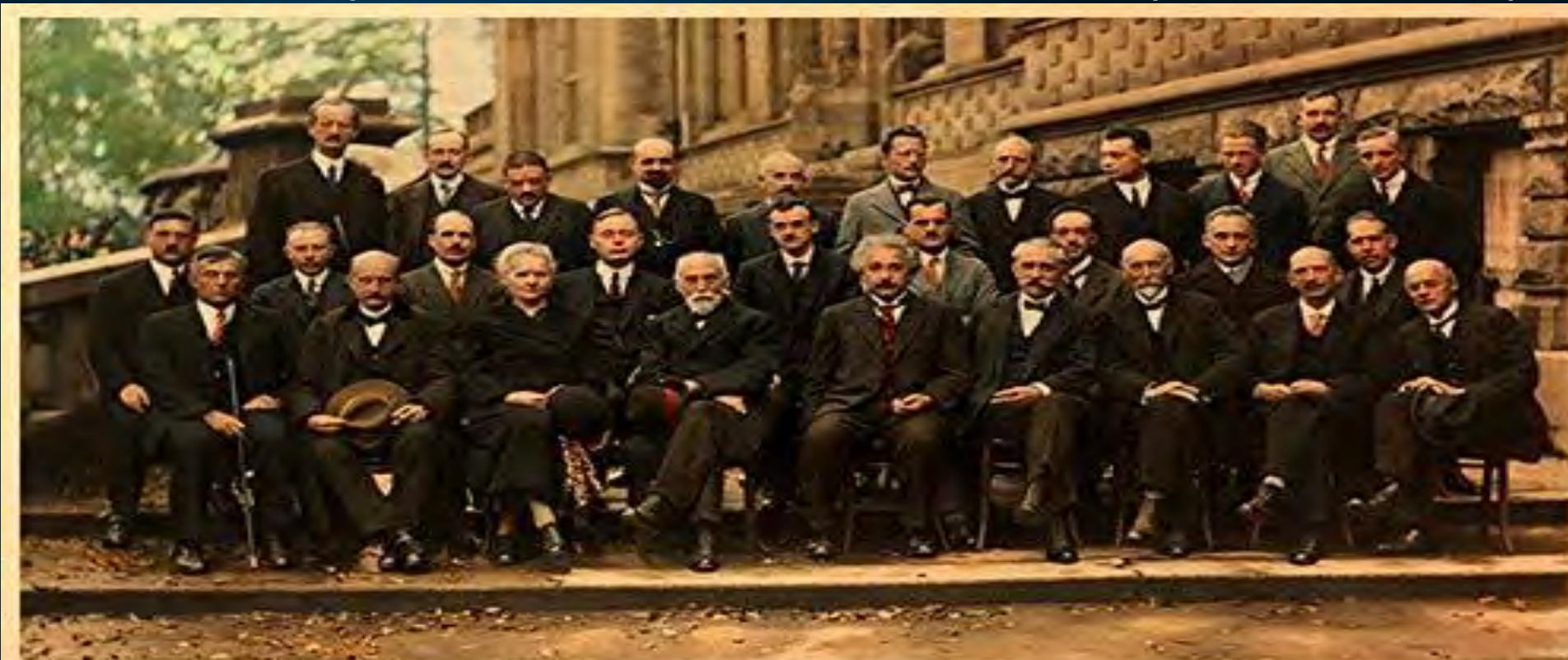
Google/Cyberdyne augments people:

Implants are coming ... started with prosthetics, AI, Quantum Computers

Be a Future Tech Leader!
(Integrating Tech)



1927 Solvay Conference Color Poster (On Amazon)



SOLVAY CONFERENCE 1927

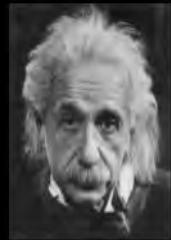
A. PICARD	E. HENROT	P. CHAPLINE	B.G. HERSEN	T.H. DE DONDER	E. SCHRÖDINGER	E. VERSCHAFFEEL	H. FAUCET	W. HEISENBERG	R. HEDWIGER	L. BRUOLIN
P. DEBYE	M. ENGELEN	W.L. BRAGG	W.A. KRAMERS	F.A.M. DIRAC	A.H. COMPTON	E. DE BROGLIE	M. BORN	N. BOHR		
E. LANGMUIR	M. PLANCK	Mme CURIE	H.A. LORENTZ	A. EINSTEIN	F. LANGEVIN	O.N. GUYE	C.T.R. WILSON	O.W. RICHARDSON		
Absent: Sir W.H. BRAGG, M. DESLANDRES, A.P.C. VAN ALBEN										

Entanglement hits IT World



Quantum Entanglement

“Spooky action-at-a-distance”
(A. Einstein)



The Age of Entanglement

As technology and humanity continue to converge the repercussions on our future are staggering...

Quick FREE notes

Send email to (for slides):

hello@viscosityna.com

(richniemiec@gmail.com)

@richniemiec - twitter



ONLINE TECH EVENTS
COMMUNITY BUILDING

CONF42

98%

of the FORTUNE 100 Run Oracle Database