

A hand holding a Bitcoin coin, with a blue network overlay consisting of nodes and lines. The background is a blurred image of a person in a white shirt.

# BLOCKCHAIN

Lessons learned from  
The North American Bitcoin Conference – January, 2018 - Miami  
Maricel Medina-Mora

# BITCOIN. BLOCKCHAIN. ICOs. MIAMI. JANUARY 18-19.



THE NORTH AMERICAN  
BITCOIN CONFERENCE

A part of the



WORLD  
BLOCKCHAIN  
FORUM  
INVESTMENTS & ICOs

<https://btcmiami.com/>



It's Not  
An  
Innovative Idea  
Until It  
Gets  
Rejected

- *Fast Company* -

# MAIN TOPICS LEARNED

0

Bitcoin 101:  
Cryptocurrencies and  
Mining

1  
Bitcoin was created by the pseudonymous Satoshi Nakamoto, however the underlying technology go back to the late 80s.

0

Blockchain  
101: Trust,  
Transparency  
,  
Infrastructure

2  
The concept of Blockchain originated with Bitcoin. It is fundamentally based on trust, transparency and infrastructure

0

Bitcoin &  
Blockchain  
Movement

3  
The amount of companies working and releasing new services and products increases every day. How can we trust them?

0

Implications  
in IT  
Curriculum  
Design and  
Instruction

4  
Many universities and training centers, private and public, are offering certificates and training. It's time to think about our responsibility with students and their future



**What is Bitcoin?**

# Brief history of Bitcoin

## 2008-10 - Genesis

"Bitcoin: A peer-to-peer Electronic Cash System" by Satoshi Nakamoto

The paper explains the technical and economic foundation of trustless cryptocurrencies

First block mined

First transaction being done by Laszlo Hanyecz. He paid 10K BTC for two pizzas

## 2011-2013 - Early Steps

The Foundation for Economic Education accept Bitcoin → First adopters

First venture capital investment → \$25K for an app Gliphs

Largest error ever → For 6 hours there are two Bitcoin networks operating

## 2014-2015 - Adolescence

Investment keeps growing

New companies receive double digit funding

Main fall of the world's first and largest bitcoin exchange: Mt.Gox

The NY State Department of Financial services issues business licenses

## 2016 - Present

Bitcoin reaches Gold Parity

Ups and downs → Highest value \$17K

# Some Fact about Bitcoin

**Bitcoins is not anonymous; it is pseudonymous**  
Everybody verify rules there are “no ways” to steal funds, cause inflation or other problems. The transactions are public but not associated with real-world identity.

**Bitcoins come from a Mining proces**  
Computer hardware is used to compute math problems. The first computer that solves the problem, earn Bitcoins.

**Bitcoins can be exchanged**  
The are market places where people can buy and sell Bitcoins  
<https://www.coindesk.com/price/>

**Bitcoins are saved in digital/hardware wallets**  
A software that store private keys associated with the Bitcoin address





# What is Blockchain?

# The main concepts of Blockchain



## The "BLOCK"

Blocks of data  
Blocks are "hashed"  
The "hashed" is included in the next block  
All blocks are linked and create a CHAIN  
All blocks are shared on a network of computers



## The NETWORK

The entire network reaches consensus  
Consensus is reached without a central intermediary  
All blocks are order chronologically



## The SMART CONTRACT

On a decentralized system, there is no need of intermediaries (remove middlemen)

Contracts are digitalized, stored and replicated on the system and supervised by the network of computers that run the blockchain.

# Decentralized platforms

## Etherum

A distributed smart-contract platform that uses ether, its native digital cryptocurrency

Once of the first successful ICO

Fundamental platform of other projects

<https://www.ethereum.org/>

## Hyperledger Fabric

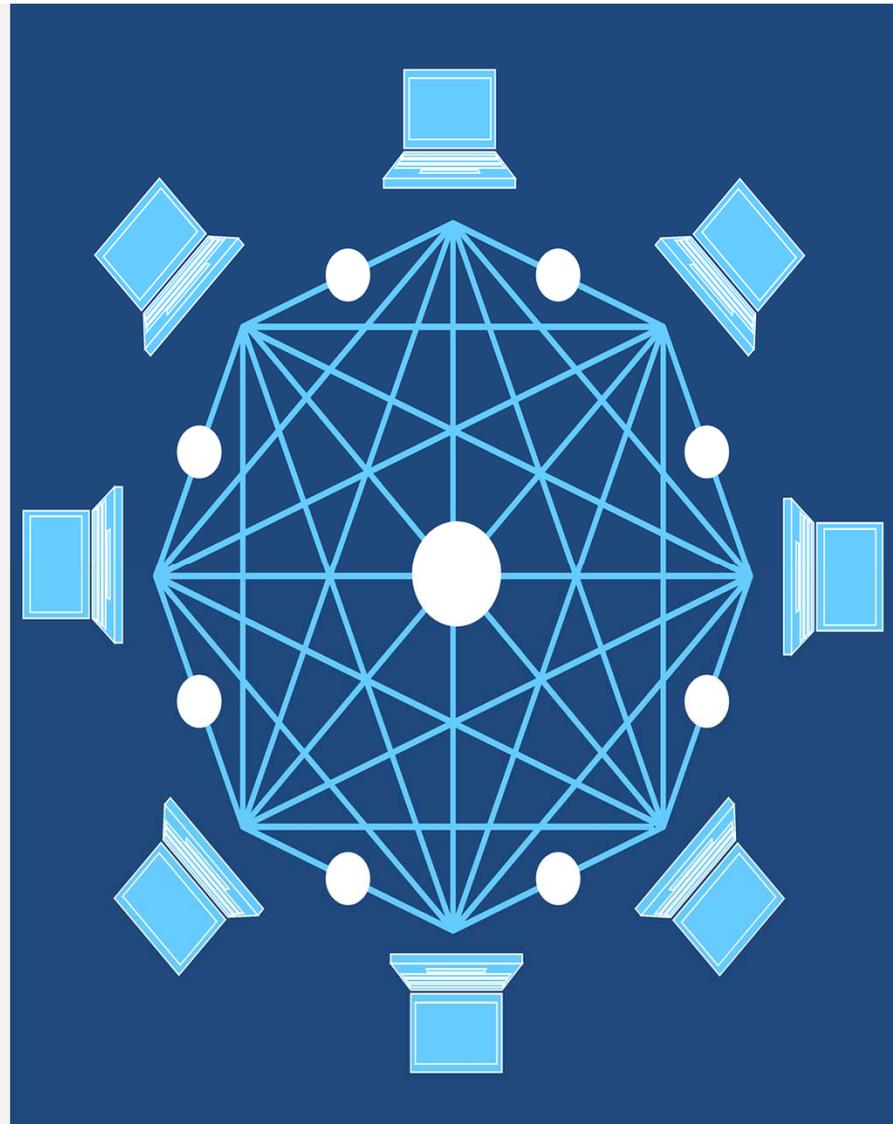
Hyperledger Fabric is a blockchain framework implementation and one of the Hyperledger projects hosted by The Linux Foundation

<https://www.hyperledger.org/projects/fabric>

## Corba

Blockchain platform designed specifically for businesses.

<https://www.r3.com/about/>





# The B&B Movement

# BLOCKCHAIN FOR EVERY INDUSTRY

Exploring blockchain use cases beyond Bitcoin and financial services

Blockchain technology has the potential to upend the way every industry manages its information and data, not only financial services. This infographic details the opportunities in every vertical to effectively store transaction, customer, and supplier data in a transparent, immutable ledger online.



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<https://shift.newco.co/graphic-blockchain-for-every-industry-dfcbdcfe23ea>

# BC-Enabled Use Cases: From healthcare to education



<https://aws.amazon.com/partners/blockchain/>



<https://azure.microsoft.com/en-us/solutions/blockchain/>



<https://www.accenture.com/us-en/service-blockchain-financial-services>



<https://www.ibm.com/us-en/?lnk=m>



<https://www.sap.com/products/leonardo/blockchain.html>



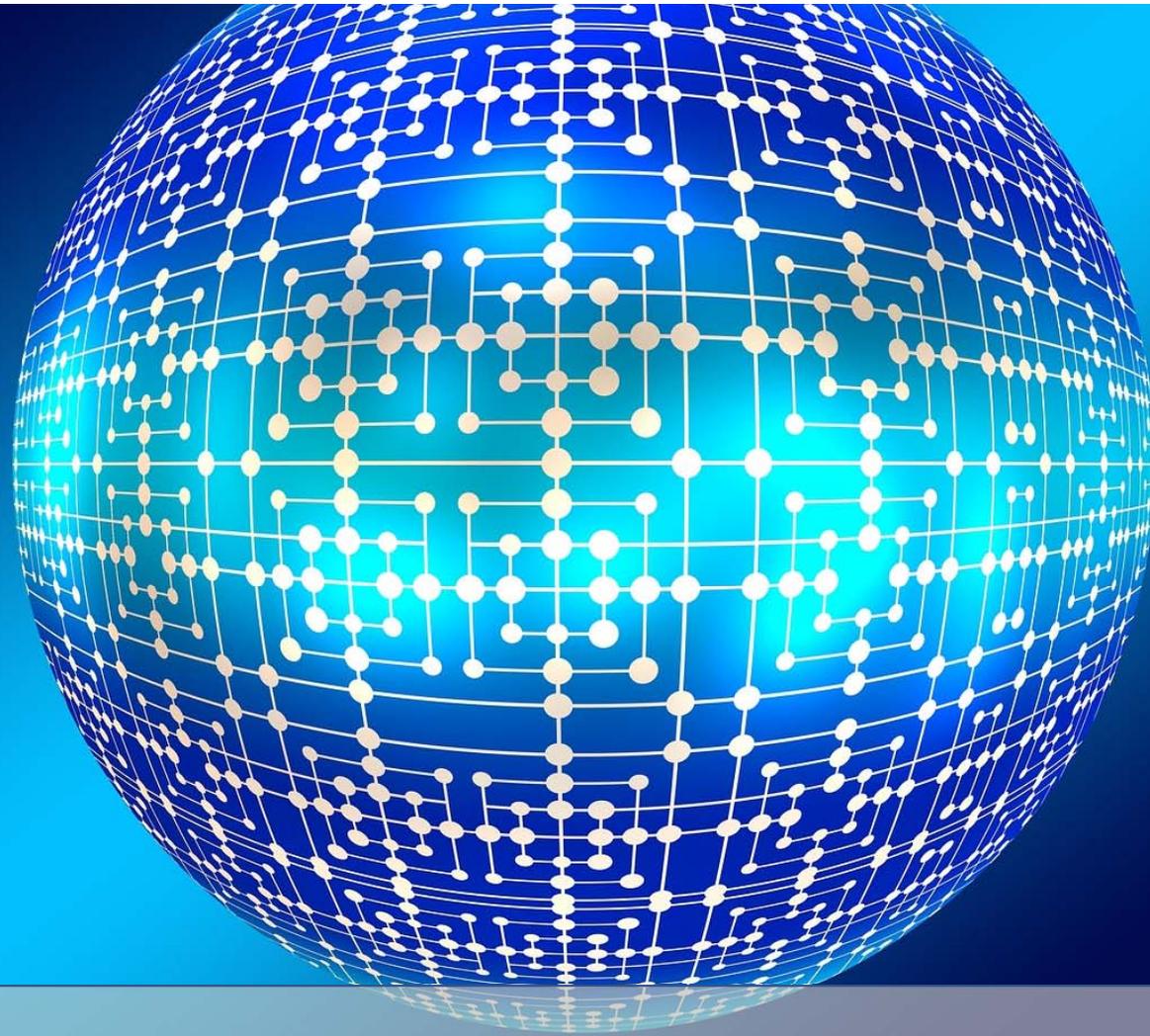
<https://www.oracle.com/cloud/blockchain/index.html>



<https://dragonchain.com/>



Thousands of startups  
Around the world



# Implications in Higher Education

# Universities leading the way



**coursera**

<https://www.coursera.org/learn/cryptocurrency>



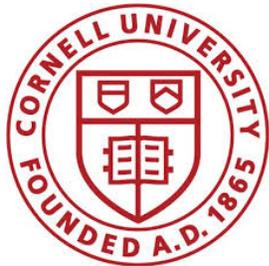
<https://its.law.nyu.edu/courses/description.cfm?id=12865>



<http://blockchain.mit.edu/how-blockchain-works>



<https://blockchain.berkeley.edu/>



<http://www.cs.cornell.edu/courses/cs5437/2016sp/>



<http://www.cs.jhu.edu/~abhishek/classes/CS601-641-441-Spring2018/class.html>



<https://faculty.fuqua.duke.edu/~charvey/550crypto.htm>



<https://online.stanford.edu/courses/cs251-bitcoin-and-crypto-currencies>



**"The technology most likely to change the next decade of business is not the social web, big data, the cloud, robotics, or even artificial intelligence. It's the blockchain..."**

*—Harvard Business Review "The Impact of Blockchain Goes Beyond Financial Services," May 2016*