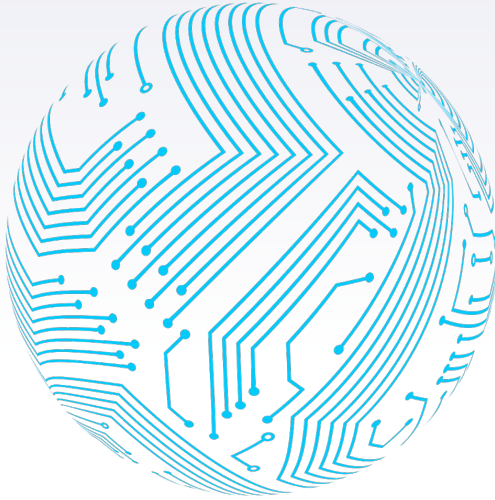


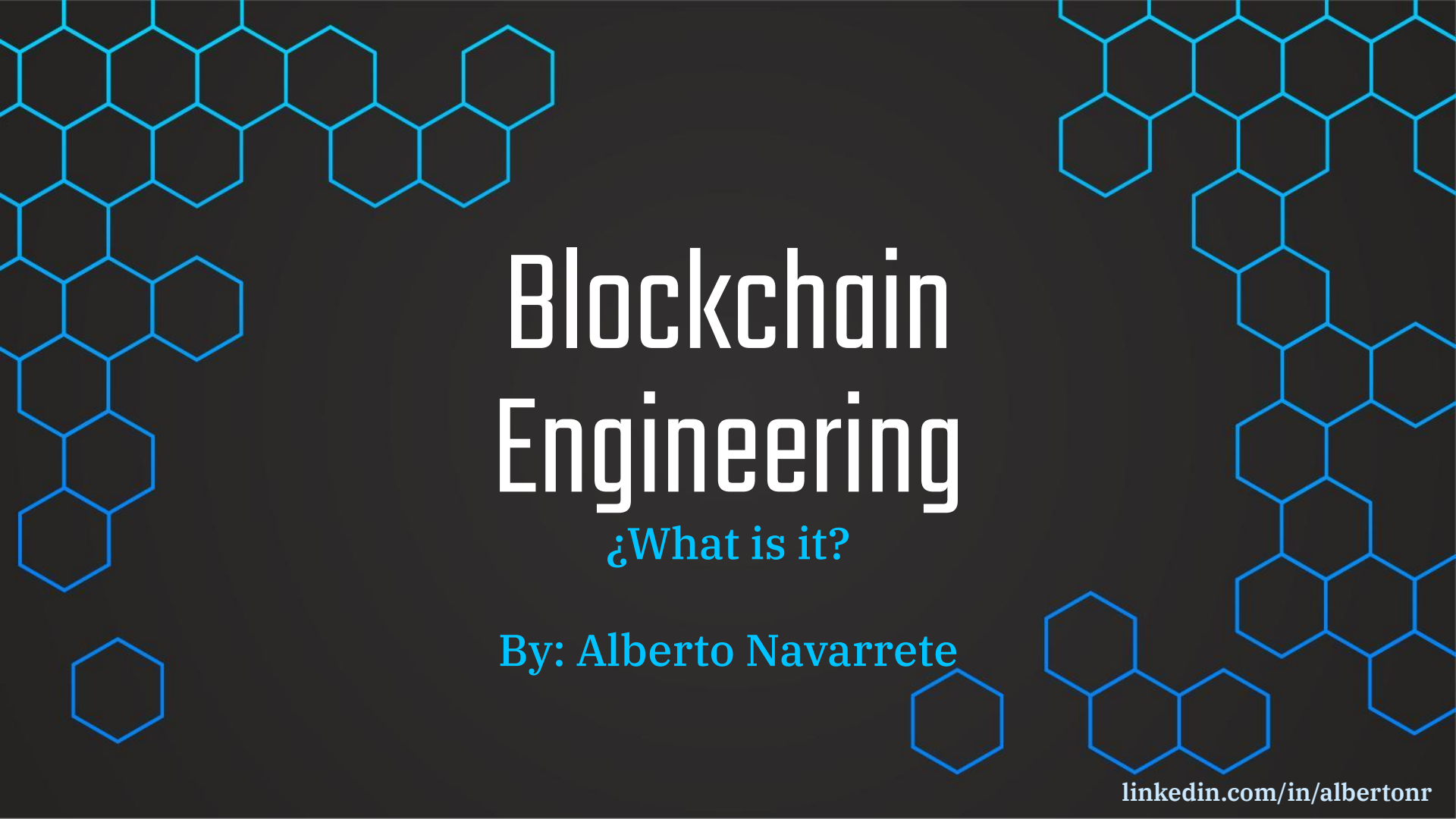
Inspired by:



 DATA SCIENCE
INSTITUTE



The World Data Science Institute is a Financial Data Science Research & Development Company!



Blockchain Engineering

¿What is it?

By: Alberto Navarrete

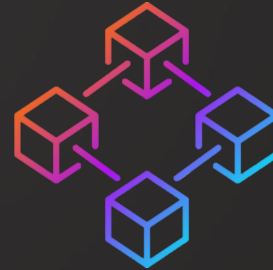
[linkedin.com/in/albertonr](https://www.linkedin.com/in/albertonr)

Blockchain Engineer



Blockchain engineers can do a lot of things, but they specialize in creating technology and implementing digital solutions for organizations using BLOCKCHAIN.

But first, do you already know what is Blockchain?





01

Blockchain

What is Blockchain?

What is it?

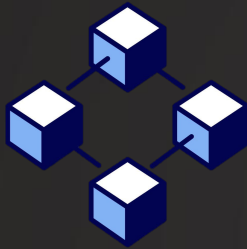
Have you ever wondered, if your voting pallet was really considered, or if your sensitive or important data was altered in a process?



Blockchain is an immutable, decentralized recording information system, an immutable digital ledger.

What means that you can't edit a recorded transaction, making it trackable and fraud proof.

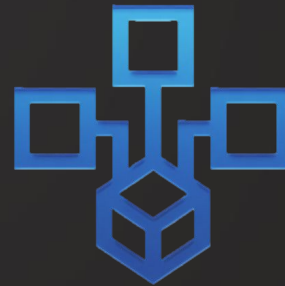
Blockchain is made of nodes...



Every blockchain has several nodes known as a "Block", each block is an individual ledger that records every transaction made in the blockchain, and it can be anywhere, and with anyone.

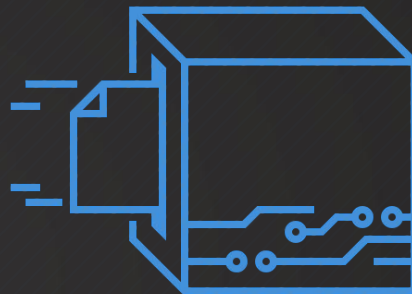
The group of several nodes makes a blockchain, making them not just decentralized but distributed.

Making it difficult to take down or corrupting it.



But, how does it works?

Every transaction that gets in into the blockchain, is distributed between blocks via “gossip protocol”.



And blockchain has different applications without having a middleman involved, such as finance, marketplaces, secure sharing of data, health care, among others.

All those in a secure and trustful system with smart contracts incorporated.



02

Smart Contracts

What are those?

Nearly the same, but one is just better



Contract

Trust issues

Slow and with paperwork

Manually filled, and
with errors

Third party involved



Smart Contract

No trust issues

Executed immediately

Encrypted, transparent and
accurate

No third party involved

And if the benefits weren't clear...

They are only executed when a 2 parts condition is fulfilled.

Traceable, and immutable.

No third party involved.

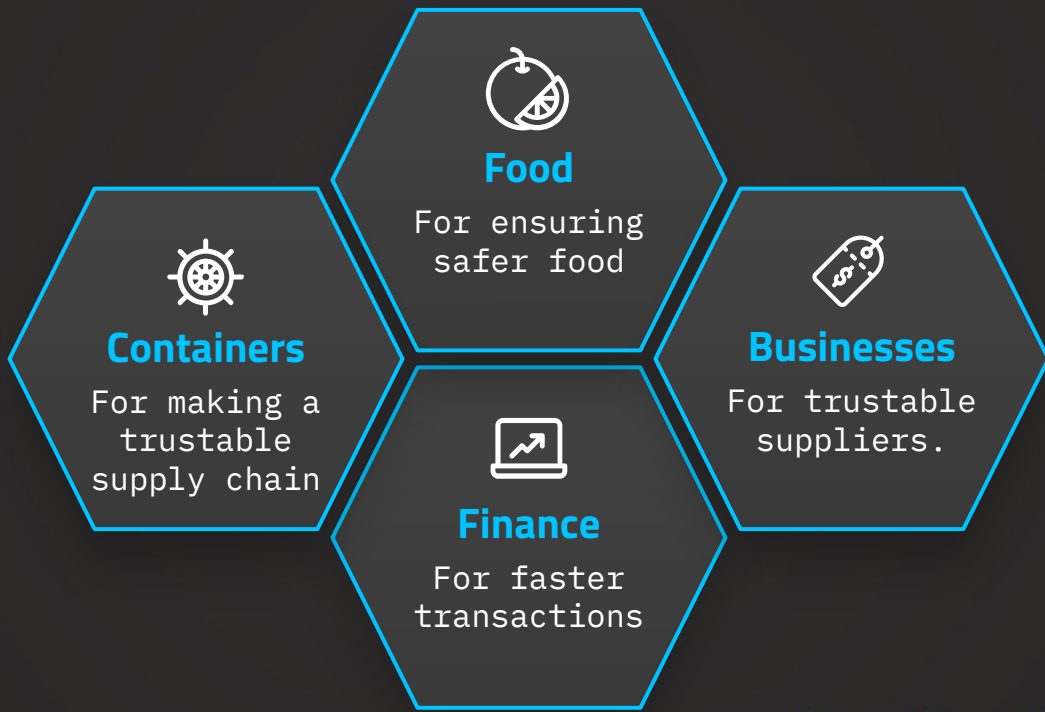


Encrypted, which makes them hard to hack.

Trustable and transparent, by being in a blockchain.

Digital, automated, efficient and accurate.

Applications of Blockchain





03

Blockchain Engineer

So what is it?

Who are they?



They are the experts behind the development of computer networking, cryptography, and algorithms.

With high skills for developing and implementing digital solutions using blockchain technology or as consultants.



What do they do?

They build, develop, implement, and advise all kind of solutions for problems using blockchain technology.



They also can perform operations, design, analyze and support distributed blockchain networks, being able to manage specific business models based on the needs of the clients.

Where do they work and who uses blockchain?

The IBM logo is displayed in blue, consisting of the letters 'IBM' in a bold, sans-serif font. It is centered within a black hexagon that has a blue outline and a subtle drop shadow.The Walmart logo is shown in white, featuring the word 'Walmart' followed by a yellow six-pointed starburst icon. It is centered within a blue hexagon with a blue outline and a subtle drop shadow.The HSBC logo is presented in white, with the letters 'HSBC' and a hexagonal emblem containing four white triangles. It is centered within a black hexagon with a blue outline and a subtle drop shadow.

Major Requirements



Degree

Bachelor's degree in CS, Information systems or related.



Knowledge

General blockchain knowledge about ecosystems, platforms, and interoperability.



Data Structures

Patricia and merkle trees, and hash functions.



Cryptography

Being a cryptography master.



Front – Back End

Front and Back End development knowledge.



P. Languages

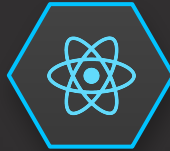
Being proficient in Java, C++, Python, Solidity.

What do they use?

Kubernetes



ReactJS



Cloud Computing



Blockchain itself Artificial Intelligence



But, what about their tools?

Truffle

Toolbox for smart contracts developer.

[Trufflesuite.com](https://trufflesuite.com)

Hardhat

Ethereum development environment.

[Hardhat.org](https://hardhat.org)

Remix

Open source IDE for contract development.

[Remix.ethereum.org](https://remix.ethereum.org)

And more...

Some blockchain projects



Bitcoin

Leader crypto in the market.



Ethereum

Open source platform for decentralized applications.

Some blockchain projects



Polkadot

Network protocol for data and tokens transfer across Blockchains.



Chainlink

Network that provides data from off-blockchain sources via oracles.

Some blockchain projects



DeFi

Decentralized Finance projects.



Blockchain voting

Blockchain voting platforms for fraud prevention.

And much more!



Bitcoin

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Network protocol for data and tokens transfer across Blockchains.



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Decentralized Finance projects.



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Open source platform for decentralized applications.



Blockchain voting

Blockchain voting platforms for fraud prevention.



04

Salaries

How much do they earn? (USD)

In the United States

	High Base	Low Base	Average
Solidity developer in US	\$180,000	\$80,000	\$127,500

In Asia

	High Base	Low Base	Average
Solidity developer in Asia	\$150,000	\$100,000	\$125,000

Remote

	High Base	Low Base	Average
Remote Solidity developer	\$200,000	\$100,000	\$145,000



05

Community

What about community?

The community is awesome!

ETH Global

Ethereum global
community, organizes
hackathons, strengthen
developer communities,
and push limits of new
technologies



Networking everywhere!



Chainlink community

Chainlink global
community dedicated
to advancing smart
contracts!

Fenomenal, inclusive and fun!

Apex, XRPL Dev Summit.

Annual event where developers, contributors and thought leaders come together to learn, build, share, network and celebrate all things XRP Ledger.





THANKS

Blockchain Engineering Presentation

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