Vitalik Buterin

One interesting aspect of the byzintine generals problem Vitalik explains is how we assume in the problem that we know who the generals are. He mentions the use case of decentralized systems was originally in a system where we could assume most generals were honest and we could check the identity of the general. An example may be a physical system with sensors where we can assume most of the sensors are correct or we can check the model of the sensors for defects. With anonymous users we can not assure the allegiance of our generals and cannot ensure that two users are not in alliance for malicious intent. He mentions the level of certainty needed for consunus to be between 23.2 and 50 percent of the system.

Quantum Computing

Shor's algorithm. Quantum computing will at some point threaten the sanctity of blockchain security. Shor's algorithm is part of the problem breaking the completeness of many cryptography algorithms by using lots of computational power. There are many quantum proof algorithms that can keep the security of blockchain protected, but many of these algorithms are between 5 to 10 times less efficient than commonly used algorithms.

Grover's algorithm. Normally described as solving search problems.
2 possibilities
-Becomes the fastest way to mine coins and creates a new asic situation where new hardware outperforms previous versions and the people to first adopt will benefit the most.
-The overhead of quantum would not be efficient enough for grovers to cause this change.

Cryptocurrency, Blockchain, and the Byzantine Generals Problem (Vitalik Buterin) | AI Podcast Clips
https://www.youtube.com/watch?v=Ym_t0LvHg-g

NFT

ERC-20: Token Standard

https://eips.ethereum.org/EIPS/eip-20#abstract

ERC-721: Non-Fungible Token Standard

https://eips.ethereum.org/EIPS/eip-721

ERC-1155: Multi Token Standard

https://eips.ethereum.org/EIPS/eip-1155

ERC-165: Standard Interface Detection

https://eips.ethereum.org/EIPS/eip-165

Where To find a list of Need to know blockchains. Source for ERC standards above.

https://101blockchains.com/erc-standards/

Good source for general knowledge of NFT.

https://opensea.io/blog/guides/non-fungible-tokens/