<https://www.youtube.com/watch?v=ylxd_UwgvJU>

This TedTalk illustrates the importance of Cyber Security. Describes the current archetype for secure processes. Sampalli discusses the five major fields for cyber security concern. Mobile tech, Ransomware, Internet of Things, Big Data, and Humans are the fields we should be concerned about. He poses the question of possibly using Big Data as a form of security. Although I do not know about using Big Data for security purposes, this provides me with specific topics for which I could learn about using cryptographic methods.

<https://www.digitalinformationworld.com/2018/12/biggest-data-breaches-of-2018.html>

Cyber attacks are a continuous concern. Data breaches are a top concern because anything from social security numbers to health records could be at risk. Causes vary from mishandling of data to lacking security features. The number affected varies, but in 2018 the top 19 attacks all affected 1 million plus people. Biggest breach of 2018 affected 1 billion people.

Jonathon Carlson and library resources for computer science

<https://www.cisco.com/c/en/us/products/security/common-cyberattacks.html>

types of cyber security attacks

<https://blockgeeks.com/guides/what-is-blockchain-technology/#How_Does_Blockchain_Work>

block chain info

Tpoics:

Cryptography

(quantum resistant crypto)<https://dl.acm.org/citation.cfm?id=3191677>

(elliptic curves) <https://dl.acm.org/citation.cfm?id=2047457>

(machine learning crypto algorithms) <https://dl.acm.org/citation.cfm?id=3309092>

Big data/Preventative measures

<https://dl.acm.org/citation.cfm?id=3191528>

This resource explores the idea of anticipating cyber attacks by mining data. The data mining technique is illustrated. Descriptive parameters for mining twitter and forums about cyber security were presented. The Discover system provides an early warning approach that has been proven to be 84& effective at predicting attacks. Anticipating attack could be a new approach to cyber security. Although, I wonder if there is any way to use this as an attack itself since a false warning could potentially lead to an increase in resource concentration.

(Use Cases)

<https://ieeeaccess.ieee.org/special-sections-closed/challenges-opportunities-big-data-cyber-crime/>

(big data to prevent attacks from north korea)

<https://apps.webofknowledge.com/full_record.do?product=WOS&search_mode=GeneralSearch&qid=2&SID=7Ds8qG8PHWBUbEmR8R5&page=1&doc=3>

(Big data for SDN) <https://apps.webofknowledge.com/full_record.do?product=WOS&search_mode=GeneralSearch&qid=2&SID=7Ds8qG8PHWBUbEmR8R5&page=1&doc=4>

Block chain

(Encryption of Block Chain) <https://dl.acm.org/citation.cfm?id=3319952>

(Encryption of Block Chain) <https://dl.acm.org/citation.cfm?id=3329825>

(library system)<https://dl.acm.org/citation.cfm?id=3277951>

<https://dl.acm.org/citation.cfm?id=2808145>

<https://apps.webofknowledge.com/full_record.do?product=WOS&search_mode=GeneralSearch&qid=8&SID=7Ds8qG8PHWBUbEmR8R5&page=1&doc=1>

Block Chain

A block chain is a list of records where every record of data is linked together. The block chain is immutable and decentralized meaning there is no single point of failure. Information on a block chain is continuously shared with all network nodes and reconciled so there is almost no way to alter the information on the block chain.

Library block chain

Yinan Wu, the researcher who published *Research and Implementatoin of Library Circulation System Based on Block Chain*, applies the block chain technology to a library. A library is a physical centralized database.

* Current uses for block chain
* Weaknesses

Misc

<https://dl.acm.org/citation.cfm?id=2461451>