3·8·2020

MAY 2014 | APRIL

Monday 28

WK 18 • 118-247

CSE 512

DISTRIBUTING TRUST AND BLOCK CHAINS

TAUGHT BY

- prof. sujit gujar

COURSE TOPICS

1. basic maths (probability theory) and cryptography concepts such as encryption, hashing, merkel trees. (introduction to basic stuff so that the course can be self sufficient)

2. what is cryptocurrency? what is bitcoin? how does bitcoin work?

3. what is double spending? how it is avoided by proof of work in bitcoins?

4. bitcoin mining: stategies and incentives, and mining pools.

5. distributed consensus. block chain technology.

6. use of block chains to design smart contracts (ethereum / solidity) and their applications such as secure auction, distributed machine learning, secure crowd sensing, etc.

2014

5.8.2020
2

APRIL

29 Tuesday

119-246 • WK 18

MARCH 2014

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2	3	4	5	6	7	8
9	10	11	12	13	14	15
16	17	18	19	20	21	22
23	24	25	26	27	28	29
S	M	T	W	T	F	S

7. other cryptocurrencies: altcoins, zerocash, etc.

8. differential privacy: concepts and important results.

TEXTBOOKS

1. bitcoin and cryptocurrency technologies. (2016)

2. the algorithmic foundations of differential privacy.

2014