NPTEL Video Course - Computer Science and Engineering - NOC:Blockchain and its Applications

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Co-ordinating Institute - IIT - Kharagpur

Sub-Titles - Available / Unavailable | MP3 Audio Lectures - Available / Unavailable

Lecture 1 - The Model of Decentralization
Lecture 2 - What is Blockchain
Lecture 3 - Basic Cryptographic Primitives - I
Lecture 4 - Basic Cryptographic Primitives - II
Lecture 5 - Basic Cryptographic Primitives - III
Lecture 6 - Basic Cryptographic Primitives - IV
Lecture 7 - Basic Cryptographic Primitives - V
Lecture 8 - Distributed Systems for Decentralization - The Beginningâ
Lecture 9 - The Evolution of Cryptocurrencies
Lecture 10 - Open Consensus and Bitcoin
Lecture 11 - Bitcoin Mining and Beyond
Lecture 12 - Smart Contracts and the Permissioned Models of Blockchainâ
Lecture 13 - Blockchain Elements - I
Lecture 14 - Blockchain Elements - II
Lecture 15 - Blockchain Elements - III
Lecture 16 - Blockchain Elements - IV
Lecture 17 - Blockchain Elements - V
Lecture 18 - Permissionless Model and Open Consensus
Lecture 19 - Nakamoto Consensus (Proof of Work)
Lecture 20 - Limitations of PoW: Forking and Security
Lecture 21 - Beyond PoW
Lecture 22 - Ethereum 1
Lecture 23 - Ethereum 2
Lecture 24 - Ethereum 3
Lecture 25 - Ethereum 4
Lecture 26 - Consensus for Permissioned Models
Lecture 27 - State Machine Replication as Distributed Consensus
Lecture 28 - Paxos
Lecture 29 - Paxos - Safety and Liveness

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Lecture 30 - Byzantine Faults
Lecture 31 - Byzantine Agreement Protocols
Lecture 32 - Safety and Liveness of PBFT
Lecture 33 - Enterprise Blockchains
Lecture 34 - Hyperledger Fabric 1
Lecture 35 - Hyperledger Fabric 2
Lecture 36 - Hyperledger Fabric 3
Lecture 37 - Hyperledger Fabric 4
Lecture 38 - Consensus Scalability
Lecture 39 - Bitcoin-NG
Lecture 40 - Collective Signing (CoSi)
Lecture 41 - ByzCoin
Lecture 42 - Algorand
Lecture 43 - Identity Management - I
Lecture 44 - Identity Management - II
Lecture 45 - Identity Management - III
Lecture 46 - Blockchain Interoperability - I
Lecture 47 - Blockchain Interoperability - II
Lecture 48 - Blockchain Interoperability - III
Lecture 49 - Hyperledger Indy - I
Lecture 50 - Hyperledger Indy - II
Lecture 51 - Hyperledger Aries
Lecture 52 - Blockchain Security - I
Lecture 53 - Blockchain Security - II
Lecture 54 - Blockchain Security - III
Lecture 55 - Use Cases
Lecture 56 - A Potential Use Case From a Critics Perspective
Lecture 57 - Blockchain in Financial Services
Lecture 58 - Public Sector Use Cases
Lecture 59 - Blockchain for Decentralized Marketplace - Part 1
Lecture 60 - Blockchain for Decentralized Marketplace - Part 2
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