

A Dive into the World of



# Blockchain Technology

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Dr. Upendra Pratap Singh  
Dr. Deepti  
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# Preface

Blockchain Technology is the new buzz word nowadays. If we turn our eyes around, almost every single sphere is using this innovative and smart technology known as Blockchain Technology in various domains either directly or indirectly. With the evolution of humans, technology has also evolved. New and smart technologies is gaining their momentum and facilitating the lives of humans in an unimaginable avenue. This innovative topic attracted our attention through its widespread use in various domains and drastically growing and developing the business and commerce of all economies across the world.

Through this book, authors want to share the fundamentals of Blockchain Technology which would be useful and insightful for the beginners and would open the road for further addition of knowledge into this work. Also, this work intends to highlight how this technology has changed the various sectors after its implementation and still growing. The authors try to showcase the basic coding associated with the technology in the form of Solidity and also one of the widely used applications known as Ethereum basics in their work for readers better broader view and understanding.

There are innumerable articles, work being done on this topic that has assisted the authors in better understanding of the topic. Authors have contributed their efforts collectively to detail all the associated concepts of Blockchain Technology for insightful understanding and making the mind map of the topic while reading. We hope this would help all the stakeholders associated with subject matter of the work in their areas of interest.

**Ms. Sakshi Ahlawat**  
**Dr. Upendra Pratap Singh**  
**Dr. Deepti**  
**Dr. Pawan Kumar**

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# List of Abbreviations

AI	:	Artificial Intelligence	FATF	:	Financial Action Task Force
API	:	Application Programming Interface	FinCEN	:	Financial Crimes Enforcement Network
ASCII	:	American Standard Code for Information Interchange	GDPR	:	General Data Protection Regulation
B2B	:	Business to Business	GST	:	Goods and Service Tax
B2C	:	Business to Consumer	HR	:	Human Resource
BCT	:	Blockchain Technology	IBA	:	Indian Banks' Association
BIPs	:	Bitcoin Improvement Proposals	IBM	:	International Business Machines
BSA	:	Bank Secrecy Act	ICO	:	Initial Coin Offering
C2C	:	Customer to Customer	IDRBT	:	Institute for Development and Research in Banking Technology
CASPER	:	Computer Aided Scenario and Problem Evaluation Routine	IIN	:	Interbank Information Network
CBDC	:	Central Bank Digital Currency	IoT	:	Internet of Things
CCIL	:	Clearing Corporation of India Limited	IPR	:	Intellectual Property Right
CCPs	:	Central Counterparties	ISI	:	Indian Standards Institute
CPU	:	Central Processing Unit	IT	:	Information Technology
CSD	:	Central Securities Depositories	JVM	:	Java Virtual Machine
DAO	:	Decentralized Autonomous Organisation	K-DISC	:	Kerala Development and Innovation Strategic Council
DApps	:	Decentralised Applications	KYC	:	Know Your Customer
DLT	:	Distributed Ledger Technology	MAS	:	Monetary Authority of Singapore
DPoS	:	Delegated Proof-of-Stake	NASSCOM	:	National Association of Software and Service Companies
EIPs	:	Ethereum Improvement Proposals	NFT	:	Non-Fungible Tokens
EOA	:	Externally Owned Accounts	NITI	:	National Institution of Transforming India
EOS	:	Electro-Optical System			
ETH	:	Ether			



NPCI	:	National Payments Corporation of India	PoW	:	Proof-of-Work
PAN	:	Permanent Account Number	PSS	:	Payment Service Supplier
PCMLTFA	:	Proceeds of Crime (Money Laundering) and Terrorist Financing Act	RAM	:	Random Access Memory
PE/VC	:	Private Equity/Venture Capital	RBI	:	Reserve Bank of India
PoA	:	Proof-of-Authority	SBI	:	State Bank of India
PoC	:	Proof-of-Concept	SIC	:	Standard Industry Classification
PoS	:	Point of Sale	SME	:	Small and Medium Size Enterprise
PoS	:	Proof-of-Stake	TCS	:	Tata Consultancy Services
			USP	:	Unique Selling Point
			VAT	:	Value Added Tax

## Salient Features

This is a textbook that focuses on providing an insight into the world of Blockchain Technology for students who are Beginners and interested in learning about the real world applications of the Technology. The following are the salient features of the book:

- Introduces the concept and origin of Blockchain to Beginners
- Explains the implementation of Blockchain in Various sectors
- Explores the use case of Blockchain in sectors like Education, Legal Industry, Land Records, Financial Sector, Global supply chain, Healthcare, Airlines, and Payment Channels
- Explains the concept of Tokenize Economy through Blockchain
- Advocate and explores the issues related to governance of a decentralized blockchain network
- Familiarize students with the technology and software's used for implementation of Blockchain
- Introduces the Ethereum Network and various Applications of Ethereum in the technology world
- Introduces Solidity, the most used programming language used for Ethereum platform.
- Explores the future of the blockchain technology

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