Ramaq Chools
Consulting, Training & IT Services

Emerging Technologies

Full Stack Blockchain Developer Program

Curriculum

Program Outline :

Module 1:Fundamentals of Blockchain Technology

1. **Introduction to Blockchain**
    - Core principles and architecture of blockchain technology.
    - Key components and functionalities of blockchain.
    - Benefits and challenges of using blockchain for applications.
2. **Blockchain Platforms Overview**
    - Exploring major blockchain platforms: Ethereum, Hyperledger, etc.
    - Comparing features, services, and use cases.
    - Selecting the appropriate platform for specific needs.

Module 2: Advanced Blockchain Development

3. **Smart Contract Development**
    - Developing and deploying smart contracts on various blockchain platforms.
    - Understanding smart contract languages such as Solidity.
    - Best practices for smart contract security and auditing.
4. **Frontend and Backend Integration**
    - Building and integrating frontend and backend components for blockchain applications.

- Using frameworks and tools for efficient development.
- Best practices for seamless integration and performance optimization.

Module 3: Smart Contracts and Protocols

5. **Blockchain Protocols and Standards**
    - Understanding and implementing blockchain protocols and standards.
    - Exploring consensus mechanisms such as PoW, PoS, etc.
    - Case studies and real-world applications.
6. **Advanced Smart Contract Techniques**
    - Advanced techniques for developing and optimizing smart contracts.
    - Implementing complex logic and functionality in smart contracts.
    - Ensuring scalability and efficiency of smart contracts.

Module 4: Cryptography and Security

7. **Cryptography in Blockchain**
    - Applying cryptographic principles to ensure blockchain security.
    - Understanding encryption, hashing, and digital signatures.
    - Best practices for implementing cryptographic solutions.
8. **Blockchain Security and Governance**
    - Implementing security measures for blockchain applications.
    - Best practices for securing blockchain networks and data.
    - Understanding governance frameworks for blockchain.

Elective Modules

9. **Data Ethics and Privacy**
    - Ethical considerations, privacy laws, and compliance strategies.
10. **AI Integration for Blockchain**
    - Implementing AI solutions in blockchain applications.
11. **Big Data Solutions with Blockchain**
    - Managing big data applications using blockchain technology.

12. **Blockchain DevOps Practices**
    - CI/CD pipelines, automation, and containerization for blockchain development.
13. **Blockchain Project Management**
    - Leading blockchain projects and ensuring successful delivery.
14. **IoT Integration with Blockchain**
    - Integrating blockchain solutions with IoT devices.

Websites:

- https://chools.in/
- https://ramaqchools.com/
- https://www.choolsgroup.com/