

Machine Learning Roadmap with Timeline

Month 1: Basics of Blockchain

- Understand what blockchain is
- Learn about decentralization
- Explore blockchain architecture and components

Month 2: Cryptography & Consensus

- Basics of cryptographic hashing (SHA-256)
- Public and private keys
- Digital signatures
- Consensus mechanisms: PoW, PoS

Month 3: Ethereum & Smart Contracts

- Introduction to Ethereum
- Learn Solidity
- Write and deploy basic smart contracts
- Use tools like Remix and MetaMask

Month 4: Blockchain Development Tools

- Truffle Suite
- Ganache for local blockchain testing
- Hardhat for advanced development workflows

Month 5: Decentralized Applications (DApps)

- Structure of DApps
- Frontend integration with Web3.js or Ethers.js
- Interacting with smart contracts from UI

Month 6: Advanced Blockchain Concepts

Machine Learning Roadmap with Timeline

- Layer 2 solutions (e.g., Polygon, Optimism)
- Interoperability and bridges
- Oracles and Chainlink
- NFTs and token standards (ERC-20, ERC-721)

Month 7: Project Development

- Build your own DApp
- Version control with Git
- Deploy to testnets and mainnet
- Code auditing and security best practices

Month 8: Blockchain Ecosystem & Deployment

- Explore DeFi, DAOs
- Hosting DApps on IPFS
- Deployment on networks like Ethereum, BSC, Solana
- Introduction to blockchain scaling and governance