

BLOCK AUDIT

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PROBLEM STATEMENT

Smart contracts power decentralized applications but are prone to critical security flaws such as reentrancy attacks, integer overflows, and access control issues. In 2022, over \$3 billion was lost in DeFi hacks due to these vulnerabilities. Traditional audits are costly and time-consuming, creating a need for an automated and scalable security auditing solution.

OUR GOALS

Our project aims to enhance smart contract security by integrating AI-powered threat detection and blockchain-based audit storage. The system will:

1

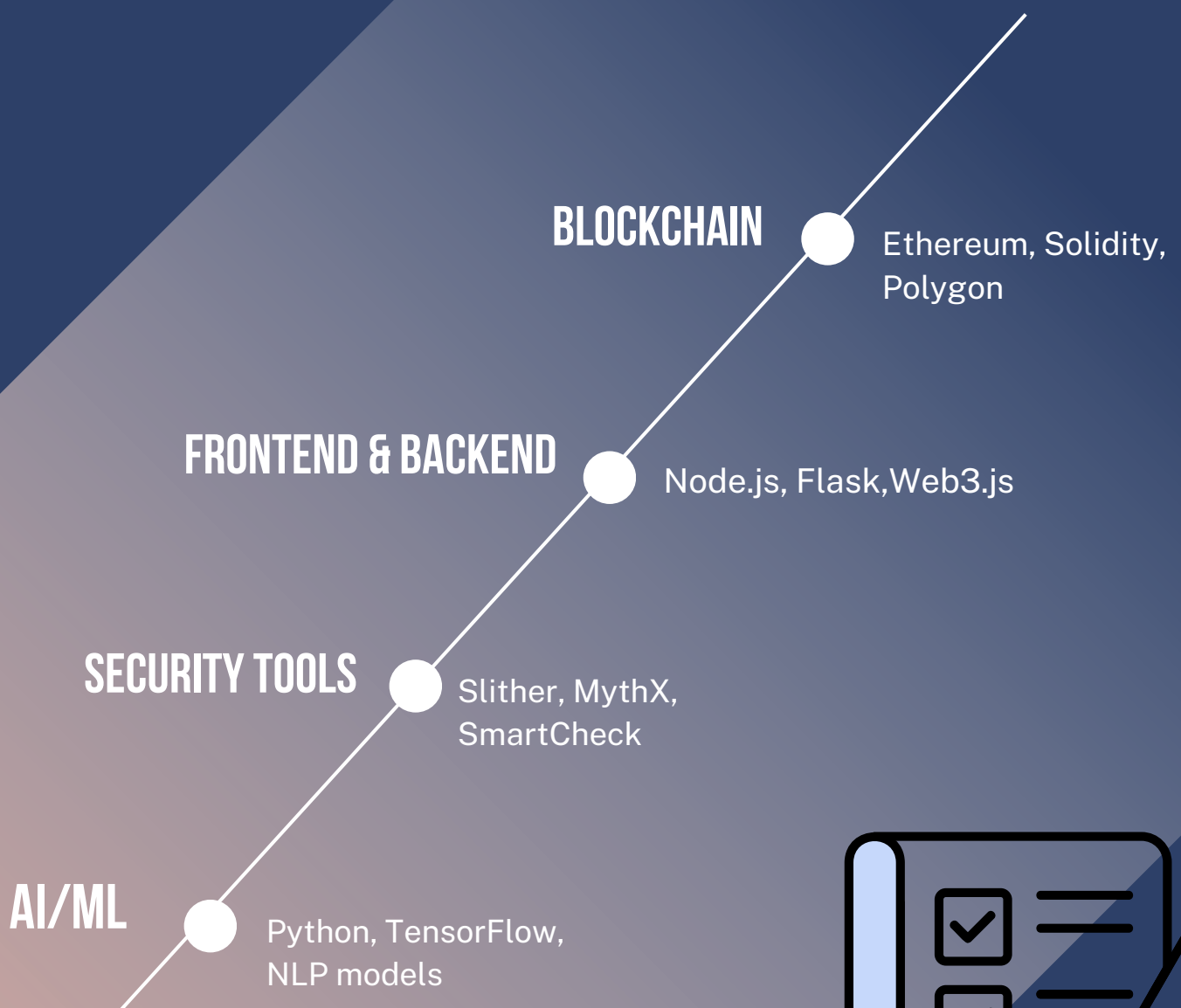
leverages AI to scan smart contracts for vulnerabilities like reentrancy attacks, access control flaws, and integer overflows. It provides risk scoring and automated recommendations to enhance contract security.

2

Security audit logs are stored on a blockchain, ensuring tamper-proof records and transparency. with a user-friendly dashboard enables developers to analyze contracts, track security status, and access audit reports.



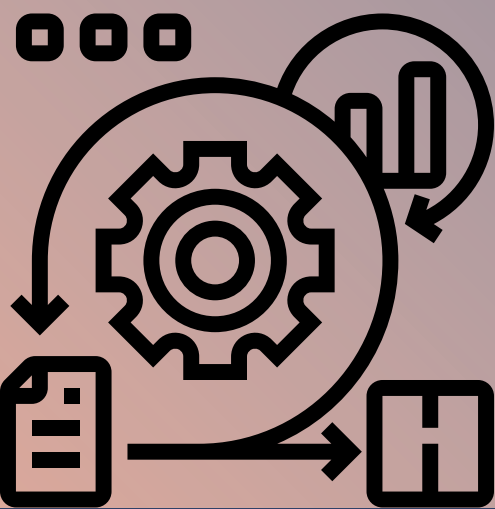
TECHNICAL STACK



METHODOLOGY

Our system follows a structured approach to ensure smart contract security. First, AI-powered vulnerability detection models analyze Solidity-based contracts, identifying potential risks like reentrancy and access control flaws. Next, detected vulnerabilities and audit reports are stored on a blockchain, ensuring immutability and transparency.

A user-friendly dashboard is developed using Web3.js and React.js, allowing developers to upload, scan, and review security reports in real time. The system also integrates security tools like Slither and MythX to enhance detection accuracy. Finally, extensive testing and validation are conducted before deployment to ensure reliability and effectiveness.





EXPECTED OUTCOMES

- **Automated AI-Driven Smart Contract Security Audits –**
Reduces human effort by scanning contracts for vulnerabilities in real time.
- **Blockchain-Based Immutable Security Reports –**
Ensures transparency and prevents tampering.
- **Interactive Dashboard for Vulnerability Insights –**
Provides real-time security analytics and risk assessment for developers.

CONCLUSION



Our system enhances smart contract security by using AI to detect vulnerabilities and blockchain to store tamper-proof audit logs. This ensures transparency, trust, and protection against exploits. By automating security analysis, the solution helps developers build safer decentralized applications.

Future enhancements may include real-time monitoring tools and support for multiple blockchain networks, making blockchain ecosystems even more secure and reliable.