



VeriChain Project

Hackathon Blockchain Solution

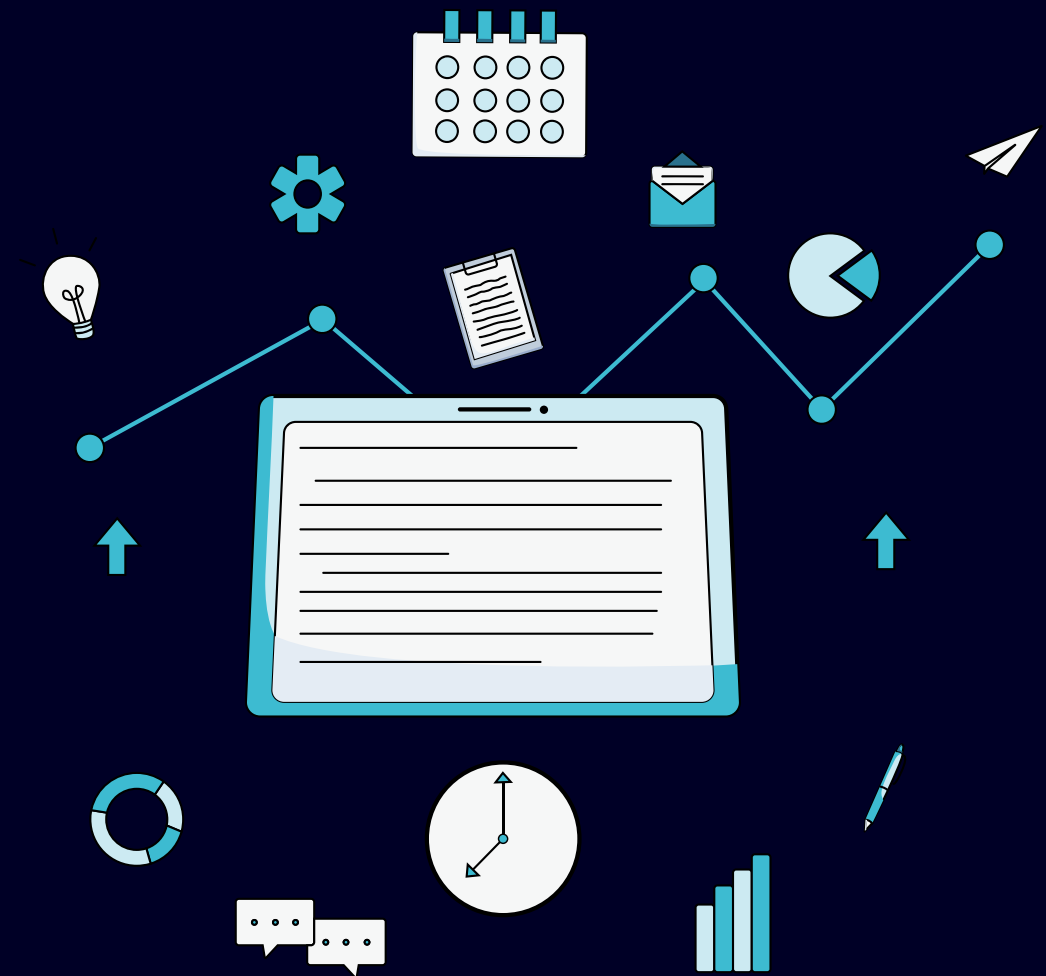
Introduction

This presentation covers the **VeriChain** project from HackOdisha5.0, focusing on its purpose, technology, and implementation, highlighting its capabilities in blockchain verification.

VeriChain revolutionizes academic credential verification by eliminating the \$600M annual fraud problem through blockchain technology. This presentation showcases how we transform verification from weeks to seconds, ensuring tamper-proof credentials that universities can trust, students can own, and employers can verify instantly.



Project Overview



Purpose and Motivation



The project aims to provide a **trustworthy verification system** leveraging blockchain to ensure data integrity and transparency for various applications.





Core Features

 Tamper-Proof

 Instant

 Student-Owned

 Fraud-Free

Target Users

Designed for businesses and organizations seeking **secure data validation** and fraud prevention through decentralized verification.

- 🏛 Universities: Instant issuing - Fraud elimination - Simple interface
- 🎓 Students: NFT ownership - Global sharing - Permanent records
- 💼 Employers: 3-second verification - Zero fraud - API integration



Technology Stack



- Frontend :

Modern, responsive UI with Web3 simulation.

- Backend :

RESTful API for credential management & analytics

- Blockchain :

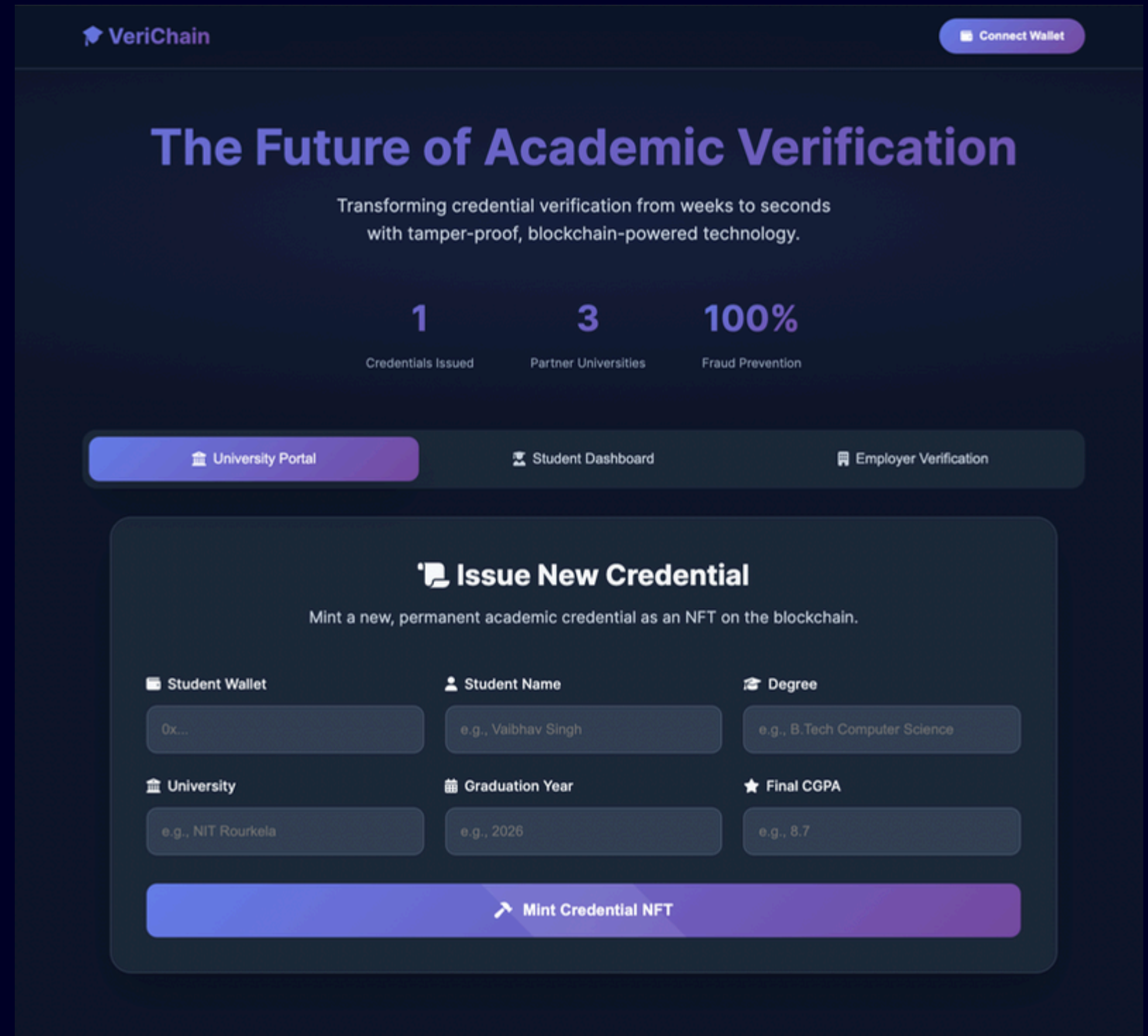
ERC-721 NFTs on Ethereum Sepolia testnet

- Wallet :

MetaMask integration for credential ownership

Frontend Design

The frontend uses responsive design principles and intuitive layouts to provide a seamless user experience, enhancing accessibility and ease of use.



Demo Walkthrough

Step 1: Connect Wallet ⚡

Action: Click “Connect Wallet”

Result: Generates demo address → Shows “Connected ✓”

Visual: Wallet address appears top-right

 **Connect Wallet**

0xb6ce...7b89

Sepolia Testnet

 **Connected**

Step 2: University Issues Credential

Navigate: University Portal tab

Fill Form: Student details (wallet, name, degree, year)


Action: Click “Mint Credential NFT”

Result: Permanent blockchain credential created

University Portal

Student Dashboard

Employer Verification

 Issue New Credential

Mint a new, permanent academic credential as an NFT on the blockchain.

Student Wallet

0xb6ced7b095f85310601ad3f595b19ec

Student Name

Vanshika Ludhani

Degree

Btech Electrical

University

NIT Jamshedpur

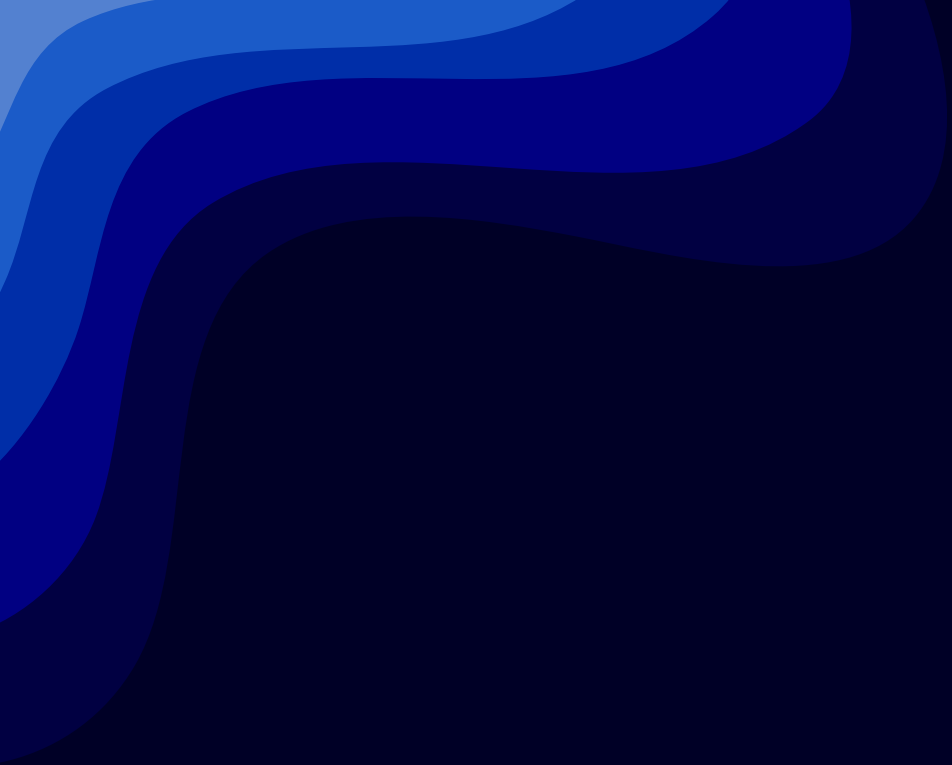
Graduation Year

2028

Final CGPA

7.5

Mint Credential NFT



Step 3: Student Views Portfolio

Navigate: Student Dashboard tab

View: All credentials issued to connected wallet

Features: Credential cards with verification badges


University Portal

Student Dashboard

Employer Verification

Your Digital Portfolio

All blockchain-verified credentials issued to your connected wallet.

 Btech Electrical

NIT Jamshedpur - 2028

Student: Vanshika Ludhani

CGPA: 7.5

ID: VRC-002

Issued: 06/09/2025

Step 4: Employer Verifies Instantly

Navigate: Employer Verification tab

Input: Credential ID + Student wallet address

Action: Click “Verify Authenticity”

Result: Instant cryptographic proof in 3 seconds

[University Portal](#)[Student Dashboard](#)[Employer Verification](#)

Verify a Credential

Instantly confirm the authenticity of any VeriChain credential.

Credential ID

VRC-002


The unique ID provided to the student.

Claimed Student Wallet

0xb6ced7b095f85310601ad3f595b19ed3a00a7b89

The wallet address the student claims to own.

[Verify Authenticity](#)

 **Verified Authentic**

This credential belongs to the provided wallet address.

Student: Vanshika Ludhani

Degree: Btech Electrical

University: NIT Jamshedpur



Key Features

- Blockchain Issuance : Universities mint tamper-proof NFTs
- 3-Second Verification : Instant employer credential checks
- Student Ownership : Wallet-based credential control
- Clean Portfolio : Dashboard for credential management
- Fraud Prevention : Cryptographic proof + detection
- Real-Time Analytics : Usage metrics & security monitoring
- Responsive UI : Cross-device accessibility



Vanshika Ludhani - Backend Development, Business Strategy

Vaibhav Singh - Frontend Development, Technical Architecture

Thankyou!

THANKS!

