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Semi-Annual Progress Report

January 2026

Student: Sipho Dlamini (3901234)

Period: July 2025 - January 2026

Supervisor: Prof. Sarah van der Berg

Summary of Progress:

This report covers the second half of my first year. Key achievements include: (1) Completion of the first working prototype of the credential verification smart contract deployed on the Ethereum Goerli testnet, (2) Submission of full draft of Literature Review chapter, (3) Abstract submission for SATNAC 2026, (4) Completion of Department Seminar presentation, and (5) Completion of Solidity development certification.

The prototype successfully verifies academic credentials in under 3 seconds with gas costs below 0.002 ETH per verification. Initial user testing with 15 participants showed a System Usability Scale (SUS) score of 72.5, indicating acceptable usability. Next steps include expanding the smart contract to support batch verification and integrating with the South African Qualifications Authority (SAQA) database API.