

PREFACE

With sincere gratitude and deep humility, the author presents this thesis entitled "Performance Analysis of the Hybrid SHA-512 and BLAKE3 Hash Algorithms in Smart Contract Systems Based on Blockchain" as part of the academic requirements for obtaining a Master's degree at Telkom University.

This research was inspired by the increasing demand for cryptographic systems that are not only secure and efficient but also compliant with modern data protection regulations. The study explores the integration of SHA-512 and BLAKE3 as a hybrid hashing mechanism to enhance blockchain performance in decentralized applications (DApps), while maintaining strong resistance to cryptographic attacks.

The completion of this thesis was made possible not only by academic guidance but also by the unyielding support system from family, mentors, and colleagues. The author sincerely hopes that the findings of this research may contribute positively to the development of blockchain technologies and serve as a reference for future innovations in data integrity and cybersecurity.