

PREFACE

All the work presented in this thesis was conducted by the author in the Cyber Security & Digital Forensics Department at the School of Computing, Telkom University. This research journey has been both a challenging and rewarding experience, made possible by the invaluable support of many individuals. First and foremost, I extend my deepest gratitude to my supervisor, whose patience, kindness, and guidance have been instrumental in shaping both my research and my personal growth as a student. Their insights and encouragement have provided me with the motivation to persevere through every challenge. I would also like to express my sincere appreciation to all my friends and acquaintances who have offered their help, whether through technical discussions, constructive feedback, or simply their moral support. Their contributions, no matter how big or small, have greatly enriched my academic journey. Lastly, my family deserves the deepest appreciation. Their unwavering support, love, and belief in me have been my greatest source of strength. Knowing that I always have a home to return to has provided me with the reassurance and motivation needed to keep pushing forward. To everyone who has been a part of this journey, thank you. Thank you for allowing me to embrace the true essence of learning, for the sake of knowledge itself, and for helping me grow into a better person.

WAWAN SETIAWAN