

CHAPTER I

INTRODUCTION

In recent years, technological developments have made significant contributions to cybersecurity, one of which is Artificial Intelligence (AI) technology [1], [2]. Cybersecurity and Artificial Intelligence (AI) are increasingly connected as AI technology develops to enhance cybersecurity protection [3]. Humans are key to addressing information security issues, so security training is essential as it can increase security awareness [4], [5]. The integration of AI in education has been recognized for its potential to enhance the learning experience and improve educational outcomes [6]. Using AI-based systems aims to provide learners with more effective learning tools and improve their ability to identify and respond to cyber risks [7].

Security Education, Training, and Awareness (SETA) programs aim to educate individuals on security measures and practices to increase their awareness and ability to protect personal information from potential threats and vulnerabilities [8],[9]. The integration of AI for this SETA program aims to improve the understanding of cybersecurity rules, facilitate the development of reality-tailored training strategies, and efficiently address evolving cyber threats through sophisticated educational mechanisms [10].

The Cybersecurity Awareness Training Program at ESET company, exemplifies the implementation of AI in SETA, utilizing gamification modules and phishing simulations to educate users. The result is that AI-based cybersecurity awareness training effectively prevents phishing attacks and grows awareness and education[11].

While much has been done to improve the technical aspects of cybersecurity continuously, there is still a gap in the literature on how AI can be integrated into Security Education, Training, and Awareness (SETA) programs [12]. Current research still tends to focus on how AI can detect threats and response mechanisms [13], with little discussion given to the potential of AI to improve cybersecurity education and training [14].

This study aims to conduct a bibliometric analysis of research papers that explore cybersecurity, AI, education [15], training, and awareness. A total of 637 research papers sourced from Scopus are analyzed to examine trends and patterns within these areas. The bibliometric results offer a comprehensive overview of the research landscape and reveal interconnections between cybersecurity and artificial intelligence.