

## ABSTRAK

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Program Studi : Teknik Informatika  
Judul Laporan Skripsi : Sistem *Log Analysis* Berbasis Web Untuk  
Deteksi Serangan Website Menggunakan  
Algoritma Boyer-Moore Dan Teknik *Regular  
Expression*  
Pembimbing : Siti Maesaroh, S.Kom., M.T.I

Di era digitalisasi saat ini, ancaman serangan siber terus meningkat secara global. serangan siber merujuk pada tindakan kejahatan yang dapat menyebabkan gangguan, pemalsuan dan pencurian informasi berharga dari aplikasi atau situs web. Berdasarkan laporan monitoring anomali kategori *web application attack* yang dipublikasikan oleh BSSN (Badan Siber dan Sandi Negara), periode januari - desember 2022 dinyatakan terdapat jumlah total  $\pm 8.126.665$  serangan website yang terjadi di Indonesia. Selain itu, bersumber pada halaman suara.com diketahui adanya kebocoran informasi kesehatan e-HAC dan informasi departemen. Hal tersebut berkaitan dengan peranan dari web server guna melayani permintaan HTTP (Hypertext Transfer Protocol). Selain itu, web server bertugas untuk menerjemahkan kode-kode dinamis menjadi kode-kode statis dalam suatu laman website. Berdasarkan hal tersebut dibuatlah sistem *log analysis* menggunakan algoritma boyer moore dan teknik *regular expressions* sebagai metode pencarian adanya indikasi serangan website dengan hasil bahwa algoritma boyer moore dan teknik *regular expressions* dapat menemukan indikasi jenis serangan terhadap website dengan baik dan relatif cepat karena hanya membutuhkan waktu 32.9 detik untuk menganalisis 1553 baris data yang berasal dari *log file*. Dengan demikian administrator web server dapat dengan mudah mencari atau melihat jenis upaya serangan website terhadap web server oleh pelaku kejahatan siber.

**Kata Kunci: Algoritma Boyer Moore, Flask, HTTP, Log Analysis, Python, Regular Expression, Serangan Website.**

## ABSTRACT

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Study Program : Informatics Engineering  
Title Thesis : Web-based Log Analysis System for Website  
Attack Detection using Boyer-Moore Algorithm  
and Regular Expression Technique  
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*In the current era of digitalization, the threat of cyber-attacks is continuously increasing globally. Cyber-attacks refer to criminal actions that can cause disruptions, forgery, and theft of valuable information from applications or websites. Based on the published anomaly monitoring report on web application attacks by the BSSN (National Cyber and Encryption Agency), in the period of January to December 2022, there were a total of  $\pm 8,126,665$  website attacks that occurred in Indonesia. Additionally, according to suara.com, there have been leaks of e-HAC health information and departmental information. These incidents are related to the role of web servers in serving HTTP (Hypertext Transfer Protocol) requests. Furthermore, web servers are responsible for translating dynamic codes into static codes within a website page.*

*Based on this information, a log analysis system was developed using the Boyer-Moore algorithm and regular expressions as methods for detecting indications of website attacks. The results showed that the Boyer-Moore algorithm and regular expressions can effectively and relatively quickly identify indications of website attack types, as it only took 32.9 seconds to analyze 1553 lines of data from log files. As a result, web server administrators can easily identify or observe attempts of website attacks against the web server by cybercriminals.*

***Keywords: Boyer Moore Algorithm, Flask, HTTP, Log Analysis, Python, Regular Expression, Web Application Attack.***