CMR College of Engineering & Technology

(UGC Autonomous)

Kandlakoya, Medchal, Hyderabad - 501401

Department of Computer Science and Engineering

MAJOR PROJECT PHASE-I		
BATCH: 2020-2024		
PROJECT BATCH No.: 87		
Domain of the Project	Deep Learning and Machine Learning	
Title of the Project	Application of Robust Software Modelling Tool for Web Attacks Detection	
Year/Sem	4th Year 1st Sem	
Name of the Guide & Designation	Mr. A. Vivekananda Assistant Professor	
Date of Submission	09-09-2023	
Roll Number	**Name of the Student**	**Phone Number**
20H51A0535	Kalluri Rishita	8919152074
20H51A05E5	Lanka Shriya	7661827020
20H51A05B1	Balla Ganesh	9676047731

ABSTRACT

Web applications are popular targets for cyber-attacks because they are network-accessible and often contain vulnerabilities. An intrusion detection system monitors web applications and issues alerts when an attack attempt is detected. Existing implementations of intrusion detection systems usually extract features from network packets or string characteristics of input that are manually selected as relevant to attack analysis. Our solution provides three contributions to the study of autonomic intrusion detection systems. First, we evaluate the feasibility of an unsupervised/semi-supervised approach for web attack detection based on the Robust Software Modelling Tool (RSMT), which autonomically monitors and characterizes the runtime behaviour of web applications. Second, we describe how RSMT trains a stacked denoising autoencoder to encode and reconstruct the call graph for end-to-end deep learning, where a low-dimensional representation of the raw features with unlabelled request data is used to recognize anomalies by computing the reconstruction error of the request data. Third, we analyze the results of empirically testing RSMT on both synthetic datasets and production applications with intentional vulnerabilities. Our results show that the proposed approach can efficiently and accurately detect attacks.

Guide Signature **Project Coordinator** **HOD-CSE**