**YS-5-RED Senior Project Cybersecurity in Malware Analysis**

*Authors: Connor Skidmore, Jonathan Tarrant, Andy Guo*

**8/20/2022**

**Table of Contents**

Team Members

Project plan

Meeting agenda

Deliverables

Conclusion

References

3

4

7

D

C

R

**Team members**

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*Connor Skidmore*: Team leader

* Bio

pic

*Jonathan Tarrant*: Lead Programmer

* Bio

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*Andy Guo*: Research lead

I am a senior at Kennesaw State University. I am majoring in Computer Science and minoring in Cybersecurity. I have always been interested in the field of Cybersecurity, that was my reason for picking it as my minor. My stronger skills are related to documentation, organization, coding, and being flexible to support other team members.

**Abstract**

Malicious actors have taken note new technologies and have begun to innovate new and effective ways to hinder or shut down their target systems. We propose five algorithms to detect five different types of malwares, with a focus on the network traffic anomalies of Distributed Denial of Service (DDoS) attacks and Port Scanning Attacks. Our other modules include Internet of Things (IoT) Attacks, Artificial Intelligence (AI) Attacks, and Crypto Jacking attacks. This paper will explore the background of each of these kinds of malware, as well as an overview of the research we conducted and an exploration of how Artificial Intelligence and Machine Learning is being used to stop malware attacks today.

**Final Deliverables**

1. 2 research modules related to “Network traffic anomaly detection using AI and ML approaches”, in specific DDoS and Port Scanning. Three other modules, one of each AI attacks, Crypto-Jacking, and Internet of Things (IoT) attack. This makes a total of 5 modules.
2. 2 Coding examples of an AI/ML program for DDoS and Port Scanning.
3. 3 non-AI/ML programs for AI attacks, Crypto-Jacking, and Internet of Things attack.
4. A documentation of the Project Plan report, which includes but not limited to Agenda, Gantt chart, Source code, Dataset, Milestones, Website link, etc.
5. GitHub page includes all researched modules with substantial material.

Graphical user interface, text, application

Description automatically generated**Contract**

Text

Description automatically generated**Team Meeting Dates and Notes**

**#1 Milestone due date 10/22/2022**

* 09/29/2022 Thursday 2:00pm
* 10/06/2022 Thursday 2:00pm
* 10/13/2022 Thursday 2:00pm
* 10/20/2022 Thursday 2:00pm

**#2 Milestone due date part 1 - 11/19/2022**

* 10/27/2022 Thursday 2:00pm
* 11/03/2022 Thursday 2:00pm
* 11/10/2022 Thursday 2:00pm
* 11/17/2022 Thursday 2:00pm

**#3 Milestone due date part 2 - 12/01/2022**

* 11/24/2022 Thursday 2:00pm
* 12/01/2022 Thursday 2:00pm
* 12/08/2022 Thursday 2:00pm
* 12/15/2022 Thursday 2:00pm

Weekly reports

* Gonna get, on discord

Gnatt chart

Deliverables

1. Websites
2. Source code with documentation

Conclusions and feedback

1. What can be done better
2. What was frustrating

References

Using work cited page in IEEE