#### MAJOR PROJECT REPORT

On

## MODELLING AND PREDICTING CYBER HACKING BREACHES

Submitted in partial fulfillment of the requirements for the award of degree of



#### **BACHELOR OF TECHNOLOGY**

In

#### **COMPUTER SCIENCE AND ENGINEERING**

By

Ms. G. VARSHA REDDY : 17J41A0515

Ms. A. PRIYA YADAV : 17J41A0543

Mr. T. RANJITH : 17J41A0555

Mr. Y. SAKETH : 17J41A0558

Under the guidance of

#### Mr. M. RAKESH REDDY

**Assistant Professor** 



# DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING MALLA REDDY ENGINEERING COLLEGE

(An UGC Autonomous Institution, Approved by AICTE and Affiliated to JNTUH Hyderabad, Recognized under section 2(f) &12(B) of UGC Act 1956, Accredited by NAAC with 'A' Grade (II Cycle) and NBA Maisammaguda, Dhulapally (Post Via Kompally), Secunderabad-500 100

Website: <a href="www.mrec.ac.in">www.mrec.ac.in</a>
E-mail: <a href="mailto:principal@mrec.ac.in">principal@mrec.ac.in</a>

#### MALLA REDDY ENGINEERING COLLEGE

(An Autonomous Institution under UGC)

Maisammaguda, Dhulapally (Post Via Kompally), Secunderabad – 500 100 Telangana State



#### DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING

## **CERTIFICATE**

This is to certify that the project work titled "MODELLING AND PREDICTING CYBER HACKING BREACHES" is a bonafide work done by Ms. G. Varsha Reddy (17J41A0515), Ms. A. Priya Yadav (17J41A0543), Mr. T. Ranjith (17J41A0555), Mr. Y. Saketh (17J41A0558) in the partial fulfillment of Bachelor of Technology in Computer Science and Engineering of the Malla Reddy Engineering College (Autonomous) affiliated to JNTUH, Hyderabad and that this has not submitted for the award of any other degree of any Institution/University.

**Internal Guide** 

**Head of the Department** 

Mr. M. Rakesh Reddy

Dr. N. Lakshmipathi Anantha

**Assistant Professor** 

Professor

**External Examiner** 

### **DECLARATION**

We hereby declare that this project work dissertation titled "MODELLING AND PREDICTING CYBER HACKING BREACHES" is original and bonafide work of our own in the partial fulfillment of the requirements for the award of the degree of Bachelor of Technology in Computer Science and Engineering at Malla Reddy Engineering College (Autonomous), affiliated to JNTUH, Hyderabad under the guidance of Mr. M. Rakesh Reddy, Assistant Professor, Department of CSE and has not been copied from any earlier reports.

ROLL NUMBER	NAME	SIGNATURE
17J41A0515	Ms. G. Varsha Reddy	
17J41A0543	Mr. A. Priya Yadav	
17J41A0555	Mr. T. Ranjith	
17J41A0558	Mr. Y. Saketh	

**ACKNOWLEDGEMENT** 

We are extremely thankful to our beloved Chairman and Founder of Malla Reddy Group

of Institutions Sri. Ch. Malla Reddy, for providing necessary infrastructure facilities

throughout the project work.

We express our sincere thanks to Director Dr. A. Ramaswami Reddy, who took keen

interest and encouraged us in every effort during the project work.

We owe our gratitude to Dr. A. Ravindra, Principal, for his encouragement to accomplish

the project work successfully.

We express our heartfelt thanks to Dr. N. Lakshmipathi Anantha, Professor and Head,

Department of Computer Science and Engineering, for his kind attention and valuable

guidance throughout the project work.

We are thankful to our Project Coordinator Dr. Ch GVN Prasad, Professor of CSE for

his valuable suggestions and guidance throughout the project work.

We are extremely thankful to our Project Guide Mr. M. Rakesh Reddy Assistant

**Professor** for his/her constant guidance and support to complete the project work.

We also thank all the teaching and non-teaching staff of Computer Science and Engineering

Department for their cooperation during the project work.

Ms. G. VARSHA REDDY: 17J41A0515

Ms. A. PRIYA YADAV : 17J41A0543

Mr. T. RANJITH : 17J41A0555

Mr. Y. SAKETH : 17J51A0558

# **Abstract**

Modeling and predicting cyber hacking breaches is an important, yet challenging, problem. In this we initiate the study of modeling and predicting cyber hacking breaches.in the present study we proposed a stochastic process model (ARIMA- auto regressive integrated moving average) to predict both hacking breach incident inter arrival times and breach sizes. Here we will use both qualitative and quantitative trend analysis on the data set.

#### **Keywords:**

ARIMA, Cyber Hacks, Security Breaches.

# LIST OF FIGURES

CHAPTER NO	<b>FIGURES</b>	PAGE NO
2.1	Description of Cyber hacking	4
	incidents	
3.2	Block diagram	6
5.2	UML Diagrams	13
5.3	Data Flow Diagram	21
8.1	Coding Screens	27
10.1	Output Screens	34

# **INDEX**

CHAPTER NO.		TITLE	PAGE NO
		Abstract	i
		List of figures	ii
1		INTRODUCTION	1
2		LITERATURE SURVEY	2
3		SYSTEM ANALYSIS	5
	3.1	Existing System	5
	3.2	Proposed System	5
	3.3	Module Description	6
	3.4	Feasibility Study	6
	3.5	Economic Feasibility	7
	3.6	Operational Feasibility	7
	3.7	Technical Feasibility	7
	3.8	Social Feasibility	7
4		SYSTEM REQUIREMENT	8
		<b>SPECIFICATION</b>	
	4.1	Introduction	8
	4.2	Purpose of Project	8
	4.3	Functional Requirements	8
	4.4	Non-Functional Requirements	9
	4.5	Input & Output Design	9
	4.6	Hardware Requirements	10
	4.7	Software Requirements	11

	SYSTEM DESIGN	12
5.1	System Design	12
5.2	UML Diagrams	13
5.3	Dataflow Diagrams	21
	<b>IMPLEMENTATION</b>	23
	TECHNOLOGY DESCRIPTION	24
7.1	Python	24
	CODING	27
	SYSTEM TESTING	30
9.1	Types of Testing	30
9.2	Test Strategy and Approach	32
	OUTPUT SCREENS	34
	FUTURE ENHANCEMENT	35
	CONCLUSION	36
	REFERENCES	37
	<ul><li>5.2</li><li>5.3</li><li>7.1</li><li>9.1</li></ul>	5.1 System Design 5.2 UML Diagrams 5.3 Dataflow Diagrams IMPLEMENTATION TECHNOLOGY DESCRIPTION 7.1 Python  CODING SYSTEM TESTING 9.1 Types of Testing 9.2 Test Strategy and Approach  OUTPUT SCREENS FUTURE ENHANCEMENT CONCLUSION