RASOUL REZVANIJALAL

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EDUCATION

MSc Iran University of Science and Technology, Computer Engineering,   *Sep 2021 – Sep 2024*
Software Engineering, Tehran, Iran
Grade: 18.11 / 20

Master's Thesis, Iran University of Science and Technology, Tehran, Iran   *April 2023 – Sep 2024*
Supervisor: Dr. Saeed Parsa
Title: "Predicting the importance and type of damage in non-executable malicious complex files"

BS Bu-Ali Sina University, Computer Engineering, Software Engineering   *Sep 2014 – July 2019*
Hamedan, Iran
Grade: 13.40 / 20

RESEARCH EXPERIENCE

Under review
Paper   *March 2025*
Rezvani-Jalal, Rasoul and Zakeri-Nasrabadi, Morteza and parsa, saeed and Hasan-Zarei, Amin, Enhancing Malware Detection Reliability in Non-Executable Files Using Confidence Score Prediction. Journal of Information security and applications. Available at SSRN: https://ssrn.com/abstract=4823193 and the newest version at https://rasoul-rezvanijalal.github.io/#publications.

Accepted, Oral presentation
Paper   *Feb 2025*
Rezvani-Jalal, Rasoul and Zakeri-Nasrabadi, Morteza, Detecting non-executable malicious files using machine learning methods. The 6th National Informatics Conference of Iran (NIC06). Available at https://rasoul-rezvanijalal.github.io/#publications.

Article   Nov 2024
Rezvani-Jalal, Rasoul, Understanding the Architecture of an Antivirus System. Medium. Available at https://medium.com/@rasoulrezvanijal/understanding-the-architecture-of-an-antivirus-system-7dd0cc6060e1

Under preparation
Paper   *Dec 2024 – Present*
Rezvani-Jalal, Rasoul and Zakeri-Nasrabadi, Morteza and Parsa, Saeed, Detecting the behavior of non-executable complex malwares using clustering technique.

TEACHING EXPERIENCE

Teaching Assistant   *Oct 2022 - Jan 2023*
Computer Engineering Department, Iran University of Science and Technology, Tehran, Iran
Professor: Dr. Saeed Parsa
- Compiler Design

Teaching Assistant   *Oct 2023 – February 2024*
Computer Engineering Department, Iran University of Science and Technology, Tehran, Iran
Professor: Dr. Hossein Rahmani
- Data Mining

Teaching Assistant   *April 2024 – July 2024*
Computer Engineering Department, Iran University of Science and Technology, Tehran, Iran
Professor: Dr. Ahmad Akbari-Azirani
- Advanced network security

PROFESSIONAL AFFILIATIONS

Full-time
Graph Company, Tehran, Iran   *December 2023 – Feb 2024*
Threat Analyst, EDR Project
- Analyze malicious files
- Create signature for malwares with YARA
- Implement famous process injection attacks like thread execution hijacking as test cases
- Cyber threat intelligence
- System calls monitoring in Linux OS with eBPF
- Signature validation
- Develop Intelligent malware detection mechanism

Full-time
Amnpardaz Software Co, Tehran, Iran   *April 2019 - Mar 2020*
Malware Analyst, Padvish Project
- Analyze malicious file
- Create signature based for them
- Develop cleaner for each type of malwares
- Configure Virtual-Box in order to detect malicious behaviors

Full-time
Amel System, Hamedan, Iran   *April 2018 - Mar 2019*
Noc Specialist
- Data Center Maintenance
- Network Monitoring
- Attending in BMS Course

Internship
Tolu Ideh Amn, Hamedan, Iran   *Jun 2018 – Feb 2019*
Cybersecurity
- Learning about malwares
- Learning about Data Center

PROJECTS

- Implementing a Python program using ANTLR to extract Control Flow Graph (CFG) of C++ programs which is important for many aspects of cybersecurity such as program analysis and code obfuscation.

- Implementing a Java program for encrypted communication between two side using socket-programming and also RAFT algorithm, all related to distributed systems.

- Implementing various Python programs to preprocess dataset, learn, postprocess and illustrate different diagrams for multiple contexts like Network Intrusion Detection, all related to data science.

- Implementing Python program using Selenium to crawl across different parts of a financial webpage in order to gather various data and report it as a csv file for further predictions.

- PfSense configuration and set all systems DNS on PfSense in order to monitor network traffic and also setting Suricata rules on PfSense machine to detect network intrusions.

- Implementing Python program to detect XSS vulnerability detection in a webpage.

- Implementing Python program using set-trace library to perform statistical fault localization which is a well-known technique in software testing.

- Conducting various cryptographic-related activities using relevant tools such as CrypTool and OpenSSL.

- Designing test sets for PID controllers using Python scripts and employing reinforcement technique to evaluate the performance of the controllers.

- Working with ROS v2 in CARLA simulator project. In included gathering information between client and server, and analyze it in ROS framework.

RESEARCH INTERESTS

- Malware Detection
- Malware Analysis
- Computer Security
- Machine Learning
- Cybersecurity for AI
- AI for Cybersecurity
- Program Analysis
- System Programming
- Software Testing
- Fuzzing
- Cyber Threat Intelligence
- Detecting Adversarial Attacks
- Trojan Neural Network

HONORS AND AWARDS

- Ranked 4th among 25 master's students   *June 2023*
- Participation in the Elite Foundation plan   Jan 2023 - Sep 2023
- Ranked 3rd in Mobile application competition marathon held   Sep 2017
  in Bu-Ali Sina University
- Ranked 2nd in Handball competitions for students of the west of the country   Dec 2016
- Ranked 4th in National table tennis tournaments   July 2009

LANGUAGES

English: IELTS overall band score 7 (C1). Listening: 8, Speaking: 7, Writing: 6.5, Reading: 6.5.

Persian: Native Language

COMPUTER SKILLS

Programming Languages	Malware Analysis Tools	UI/UX Design Technologies
VBA	OllyDbg	HTML
C++	IDA Pro	JavaScript
Python	Ghidra	
Powershell	Process Monitor	
Bash scripting	Process Explorer	
	API Monitor	
	Cuckoo Sandbox	
	VMWare Workstation	
	WireShark	
	eBPF	
	Yara	

General Technologies	Python Libraries	Other Tools
PID Controller	TensorFlow	Pycharm
Reinforcement learning	Scikit-learn	GitHub
Fixed-size-candidate-set ART	Keras	Jupyter Notebook
Metamorphic Testing	Pandas	Linux
	Numpy	Visual Studio
	Matplotlib	ANTLR
	Selenium	
	Yara-python	
	Virustotal-python	

HOBBIES

- Going to the gym
- Listening to Music
- Playing Ping-Pong
- Playing Handball

Dr. Saeed Parsa (Associate professor)
Faculty member
Computer Engineering Department
Iran University of Science and Technology
Tehran, Iran
Email: parsa@iust.ac.ir

Dr. Morteza Zakeri (Assistant professor)
Faculty member
Computer Engineering Department
Amirkabir University of Technology
Tehran, Iran
Email: zakeri@aut.ac.ir

Dr. Ahmad Akbari-Azirani (Associate professor)
Faculty member
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