Sai Tharun Reddy Mulka

7575 Frankford Road, Dallas, Texas - 75252

Email: mstharunreddy@gmail.com **Phone:** +1469-951-6605 **Github:** https://github.com/saitharun051

SUMMARY

Dedicated Computer Science Student aspiring to Research in cybersecurity field to expand my knowledge, problem-solving skills to solve the unseen threats present out there.

EDUCATION

- **The University of Texas at Dallas** Richardson, Texas, United States
  Doctoral program in computer science *August 2023 - Present*

  Courses: *Data Structures and Algorithms, Network Security, Machine Learning*

- **Vellore Institute of Technology - Amaravati** Andhra Pradesh, India
  Bachelors in Computer Science Specialization in Networking and Security *June 2019 - June 2023*

  CGPA - 9.03

  Courses: *Design and Analysis of Algorithms, Operating Systems, Computer Networks, Artificial Intelligence, Machine Learning, Database Management Systems, Object Oriented Programming, Cryptography, Secure Coding, Cyber Security, Advanced Cyber Security, Software Engineering, Web Technologies*

ACADEMIC PROJECTS

- **Title: A Comprehensive Examination of Email Spoofing, VIT-AP - Amaravati** June 2022 - July 2022
  Team Size: 4 ***Role:*** *Research Assistant*

  Summary:
  Today's email security systems are extremely complex. Three main components of security mechanisms namely 1. SPF 2.DKIM and 3.DMARC governs the entire decision of whether or not to deliver an email to the inbox. We can't say every system or software can be 100% perfect, they may have flaws. The motive of this project is to make use of these flaws and try to perform phishing attacks on different domains and email providers.

  - Conducted experiments to point out the vulnerabilities.
  - Developed exploits based on inconsistencies between the security mechanisms such as SPF, DKIM and DMARC the fundamental exploit logics are considered from the existing research space.
  - Created a Mail server and Isolated the environment for better reliability of the outcomes.
  - Studied the domains such as Medium.com, and Analyticsvidya.com that are prone to nonexistent-domain and NULL ambiguity vulnerabilities.
  - Discovered that email providers such as Google, AOL, and Protonmail are also vulnerable in some test cases.

- **Title: User and Entity Behavioral analysis, VIT-AP - Amaravati** March 2021 - November 2021
  Team Size: 2 ***Role:*** *Researcher*

  Summary:
  Insider threats are so hard to identify with present-day security products such as UBA, SIEMs. To mitigate the problem many User and Entity Behavioral Analysis(UEBA) solutions have been introduced in recent years. The primary motive of this project is to detect insider threats. Data related to user characteristics such as mouse clicks, keystrokes, etc are more focussed in this project to identify the impersonation of an attacker as a legitimate user of the organization.

  - Contributed to the Data gathering, development of a Deep Learning Model and improvising the existing solutions in the research space.
  - To evaluate the effectiveness of the strategy, the model was tested in various potential compromise circumstances.
  - Researched different Deep Learning techniques for anomaly detection and the Autoencoder (Artificial Neural Network) with modifications in the Network and tuning the hyper-parameters outperformed the other techniques.

- **Title: Secure Communication between client and server using AES-256** March 2020 - April 2020
  Team Size: 1 ***Role:*** *Project Lead*

  Summary:
  Developed a communication system that facilitates secure communication between a server and the client using a cryptographic technique called Advanced Encryption System (AES-256 bit) with counter (CTR) mode

  - Developed a communication system with python language.
  - Utilized various libraries such as pbkdf2, pyaes, os etc.

- Made the communication much more secure by adding salt and paper i.e randomized strings to the message. Finally, the communication maintained confidentiality and integrity.

PUBLICATIONS AND PAPERS

- **Artificial Intelligence in Higher Education,** Mulka Sai Tharun Reddy; Tanaya Krishna Jupalli, IGI Global, Sep,2022

- **A Comprehensive Examination of Email Spoofing: Issues and Prospects for Email Security.** Computer and Security Journal, Nov 2023

- **Artificial Neural Network Autoencoder for Insider Cyber Security Threat Detection** Future Internet, Nov 2023

- **IOT Botnet Attack Detection using BigData Analytics,** International Journal of All Research Education Scientific Methods (IJARESM), Under Publication Process

TECHNICAL SKILLS

- **Languages:** Java, C++, Python, MySQL, R, Powershell, Web Technologies (Html, CSS, etc.)
- **Frameworks:** MITRE ATT&CK, Splunk, OSINT, Django, GCloud, AWS
- **Platforms:** Windows, Linux

INTERNSHIPS

- **Virtually Testing Foundation(VTF), California**   **Information Security Administrator**   Sept 2022 - Nov 2022
A 10-week internship where the organisation provides a wide range of content from both security and professional perspective.

  - Learned various frameworks and tools such as MITRE ATT&CK, Splunk, OSINT, etc used by corporate organizations ad gained hands-on-experience.
  - Increased my Network visibility by being active on Linkedn and Twitter.
  - Had a wonderful experience with my co-peers till now and also the peer review system helped a lot in taking decisions and moreover I learned how to not over-commit

- **Research Internship, VIT-AP**   **Research Assistant**   June 2022 - June 2023
Worked as a Research Assistant under Dr. Sibi Chakkaravarthy S. on his recent work related to Email Security mechanisms and how can we compromise them to achieve Email spoofing.

  - Developed various exploits to mislead the security mechanisms.
  - Spoofed some of the top domains like google, Medium.com, etc.
  - Currently working on Microsoft Enterprise Mobile Security (EMS).

WORKSHOPS

- **30 days of Google Cloud challenge, Developer Student Club (DSC), VIT-AP**   Sep 2021 - Oct 2021
Got an opportunity to experience and learn the Google cloud framework and its utilities.
Worked on two tracks - 1. Cloud Engineering Track 2. Data Science and Machine Learning Track

- **Build "The Flutter Way", Developer Student Club (DSC), VIT-AP**   Mar 2021
Got hands-on experience with the flutter and built some projects

- **Microsoft Local Hack Day (MLH), VIT-AP**   Dec 2019
Participated in the workshop and Competed with 5 teams.