SARVAGN PATHAK

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Education

New Jersey Institute of Technology (Newark, NJ) Sep 2024 - May 2026
MS. Cybersecurity and Privacy
DA-IICT (Gandhinagar, India) Nov 2020 - Jun 2024
B.Tech Information and Communication Technology
Awards: **Cybersec Club Founder**, Music Club President

Experience

DRDO, Ministry of Defence, Govt. of India (New Delhi, India)
Security research intern Jan 2024 – Jun 2024

- Developed **advanced malware generation and detection** techniques using **GAN** to create robust **machine learning models.**
- Conducted extensive experiments using bash scripts to create advance undetectable malwares as well as strong detector leading to a **forthcoming publication** that showcases innovative methodologies.

DA-IICT (Gandhinagar, India)
Research Intern May 2023 - Jul 2023

- Authored a research paper on enhancing security for better key exchange in multicast network through advanced protocols, resulting in a published work (refer to publication).

Skills

Programming Languages: C/C++, Python, JavaScript, Bash, Powershell
Operating Systems: Linux, Mac OS, Windows, UNIX
Tools: Burpsuite, Wireshark, Metasploit, NetSim, Docker, Azure, Jupyter

Paper Published

- **Analysis of a Thermoelectric Generator Module Based on Varying Intrinsic Input Parameters**
  IEEE 3rd Int. Conference on Power Electronics, Intelligent Control and Energy Systems (ICPEICES'24)
- **Addressing Single Point of Failure in Group Communication of Constrained Environments**
  International Conference on Applied Soft Computing and Communication Networks (ACN'23)

Achievements

NASA VDP-Hall of Fame (Link)
WHO Ethical Hacker Hall of Fame (Link)
2nd at Hackinfinity National Hackathon (Link)
BU-Cert Hall of fame (Link)

Projects

Machine Learning Malware Detector | *Python (TensorFlow, Keras)*

- Developed and innovative tabular format machine learning malware detector, resulting in a **25% increase** in detection accuracy compared to existing detectors.
- Generated adversarial samples that successfully bypassed existing malware detectors, showcasing the **40% more robustness and effectiveness** of the developed model.

Digital Verification System | *Cryptography, JavaScript*

- Engineered digital verification system integrating Teserract.js photo analysis and cutting-edge salting and hashing mechanisms with notable **30% decrease** in unauthorized access incidents.

Price-Comparison website | *Python(flask), JavaScript*

- Led a team of 10 to develop a **Python-Flask** powered price comparison website, proficient in web scraping with location based using **Proxy Headers** to get comprehensive store result.