Priyansh Singh

LinkedIn: linkedin.com/in/priyanshsingh/
Research Interests: Information Security, Malware Analysis, Adversarial Learning,

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Date of Birth: 17 - November - 1993

Education

- **Indian Institute of Information Technology (IIIT)** — Gwalior, India
  Master of Technology in Information Security: GPA: 8.48 (Rank 1) — *2017–2019*
- **Guru Gobind Singh Indraprastha University (GGSIPU)** — New Delhi, India
  Bachelor in Computer Science and Engineering: Percentage: 74.3% — *2012–2016*

Work Experience

- **Assistant Professor:**
  Computer Science and Engineering, ABES Engineering College, (Affiliated to AKTU), Ghaziabad, India — *July 2019 – Present*
  In the last year, I've taught 'Computer Systems Security': a course developed at IIT - Kanpur along with 'Problem Solving with Python': a course I helped develop which focuses on using python language and developing algorithms to solve problems. I'm also involved with the Training & Placement Cell of ABES.
- **Student Industrial Trainee:** *with Mr Sanchit Gupta (Scientist - E)*
  Defence Research & Development Orgranization, India — *May 2018 – July 2018*
  A two-month research internship in Malicious Document Analysis. During which, implementation of attacks using documents was analysed. Samples were created using specific vulnerabilities to test deployed systems.
- **Intern:**
  R-Systems International Ltd, Noida, India. — *May 2018 – July 2018*
  Research and design of a Multicasting Streaming Service based on RTSP and RTP using the tool FFMPEG.

Publications

- **Malware Detection in PDF and Office Documents: A survey.**: Singh, Priyansh, Shashikala Tapaswi, and Sanchit Gupta. "Malware Detection in PDF and Office Documents: A survey." Information Security Journal: A Global Perspective 29.3 (2020): 134-153.
- **Detection of Malicious Office Documents Employing Forensic Identifiers**: Priyansh Singh and Shashikala Tapaswi. (Communicated to international peer-reviewed journal)

Research Experience

- **Masters Thesis** *with Prof. Shashikala Tapaswi*
  Indian Institute of Information Technology, Gwalior — *July 2018 – May 2019*
  Detection of Malicious OOXML Documents Using Domain Specific Features: Static analysis was performed on thousands of documents to identify domain-specific features which can be used as an indicator of malice. Machine Learning techniques such as Gradient Boosted Trees and Support Vector Machines were used to generalise features and develop a detector paradigm which resulted in very high accuracy and F-Scores.

Course Projects

- **Detection of Malicious OOXML Documents Using Domain Specific Features.**: Static analysis was performed on thousands of documents to identify domain-specific features which can be used as an indicator of malice. Machine Learning techniques such as Gradient Boosted Trees and Support Vector Machines were used to generalise features and develop a detector paradigm which resulted in very high accuracy and F-Scores. (May 2019)
- **Implementation of Memory Networks for Inference Based QA Resolution.**: We implemented the memory networks concept introduced by Facebook, on a small scale babl like dataset. (April 2016)
- **Information Retrieval and Hidden Markov Model on Medline dataset**: We trained hidden Markov model on MEDLINE data and ranked the documents on the basis of their HMM score. (December 2015)
- **Conference Management System**: Developed on LAMP stack the website employed Naive Bayes classification to predict and automate the transaction process of a confepooi ence. (April 2015)

Relevant Courses

- **MOOCs - IT Fundamentals for Cybersecurity (Specialisation)**: May 2020 — *by IBM*
- **MOOCs - Usable Security**: July 2019 — *by Prof. Jennifer Golbeck*
- **MT3302 - Network Management Security** : Spring 2018 — *by Dr. Saumya Bhadauria*
- **MT5509 - Special Topics in Information Security** : Spring 2018 — *by Dr. Ramesh B. Battula*
- **MT5501 - Information Privacy and Computer Security** : Fall 2017 — *by Dr. Saumya Bhadauria*
- **MT5502 - Modern Cryptography**: Fall 2017 — *by Dr. Anuraj Singh*

Relevant Certifications

- **UGC National Eligibility Test (NET)** : June 2019 — *Percentile 98.41 : Qualified for Assistant Professor*
- **Graduate Aptitude Test in Engineering (GATE)** : March 2017 — *Percentile 97.02, Rank : 2878*
- **CCNA Exploration: Network Fundamentals** : August 2014 — *by Cisco*
- **CCNA Exploration: Routing Protocols and Concepts**: August 2014 — *by Cisco*
- **Certified Data Processing Specialist**: September 2014 — *by AMCAT*

Skills

Computer Languages: Python(numpy, sklearn), C++, C MatLab, HTML5, Bash, LaTeX, php, HTML, MySQL
Tools: Git, nmap, Wireshark, Putty, OlyDbg, TCPDump, oletools IDA

References

Shashikala Tapaswi
Professor
Indian Institute of Information Technology, Gwalior

Sanchit Gupta
Scientist - E
Scientific Analysis Group, Defence Research and Development Organisation

Saumya Bhadauria
Assitant Professor
Indian Institute of Information Technology, Gwalior