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**SUMMARY**

Computer Engineering Graduate student with 3 years’ experience in research and development of data analysis tools. Hands-on experience with Python, R, SQL, C++, and MATLAB. Knowledgeable in processes and tools related to Big Data and Data Science.

###### EDUCATION

**PhD in Computer Engineering** **Present**

Arizona State University, AZ GPA: 4.0

**Master of Science in Electrical Engineering** **May, 2012**

Syracuse University, NY

**Bachelor of Science in Electronics and Telecommunication** **June, 2010**

University of Mumbai, India

##### TECHNICAL SKILLS

* **Machine Learning**: Classification, regression, clustering, anomaly detection, feature engineering, online learning, Experience with deep learning.
* **Programming Languages**: Python, MATLAB, C++, Prolog, HTML, LaTeX. Familiar with C, PHP, LISP, R.
* **Libraries**: scikit-learn, ElasticSearch, Weka, Pandas, OpenCV, Theano, Caffe.
* **Databases:** SQL, PostgreSQL**,** MongoDB.
* **Big Data and Cloud:** Splunk, Spark, Familiar with Big Data Processing Platforms: Hadoop and Cloud tools: Amazon S3.

**KEY PROFESSIONAL AND RESEARCH EXPERIENCE**

**Security Automation Intern (Data Science)**, PayPal **May 2017- August 2017**

**Tools:** Python, Splunk, Spark.

* Analyzed user login activity using Akamai logs and enriched it with other data feeds such as threat intelligence, merchant data, credential dumps.
* Implemented operational Anomaly detection models to detect Account Takeover (ATO) attacks to raise alerts for automated mitigation.
* Visualized ATO attacks in real time on a dashboard in Splunk to aid risk to flag fraudulent transactions.

**Data Scientist**, Cyber Reconnaissance Inc. (CYR3CON**) August 2016 - Present**

**Tools:** Python, PostgreSQL, MongoDB, Spark.

* Designed a system to store and mine data from darknet markets and forums.
* Implemented learning models to classify data related to malicious hacking (from products on markets and topics on forums).
* Built learning models for predicting likelihood of exploitation of a vulnerability, named-entity recognition using RNN/LSTM seq2seq models, identification of malicious web pages.

**Research Consultant**, CYR3CON (Client: SiteLock) **June 2016 - August 2016**

**Tools:** Python.

* Analyzed large dataset of malicious web scripts (PHP/HTML) to generate features indicative of malicious activity.
* Developed classification models to classify web scripts as malicious or not using the generated features in Python.
* **Achieved malicious script detection rate of >90%.**

**Graduate Research Assistant,** CySIS Lab, Arizona State University **August 2014 - Present**

**Tools:** Python, PostgreSQL, Prolog, tcpflow.

* Modeling of threat actors: Identifying cyber adversaries using argumentation and machine learning models (knowledge base: 10 million attacks).
* Proactive Cyber-Threat Intelligence: Built a system to crawl and parse the Darknet (markets and forums) to extract cyber threat intelligence including zero-day exploits using data mining and machine learning techniques. Identifying targeted software through disclosed vulnerabilities on Darknet.
* Malware task identification: Identifying the tasks that a piece of malware was designed to perform on the system (adversarial intent) using cognitive learning models.

###### PATENTS

* Systems and Methods for Data Driven Malware Task Identification. Submitted, 2016. **Provisional: 62/182,006**.
* Intelligent darkweb crawling infrastructure for cyber threat intelligence collection. Licensed to CYR3CON.

**Provisional: 62/409,291. Technology featured in Forbes, MIT Tech Review, ACM TechNews, Cisco Continuum.**

**REFERRED PUBLICATIONS**

<https://efnunes.github.io/publication.html>