Eric Nunes

Curriculum vitae

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Education

2014 – present **Arizona State University**
Ph.D. Computer Engineering
GPA: 4.0/4.0

2012 **Syracuse University**
M.S. Electrical Engineering

2010 **University of Mumbai**
B.E. Electronics

Work Experience

Current

Data Scientist – Intellispyre Inc.

• Designing a system to store and mine data from darknet markets and forums using Python and PostgreSQL database.
• Implementing learning models to classify data related to malicious hacking (from products on markets and topics on forums).
• Developing data analysis tools to draw meaningful insights from the gathered data (including detection of 0-day exploits, identifying exploits targeting specific vulnerabilities, trend analytics in cyber threat landscape etc.) for customer specific requirements.

Summer 2016

Research Consultant – SiteLock

• 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.
• Visualized the performance of the trained model overtime and analyzed the classification errors for further improvement through Plotly dashborad.
• **Achieved malicious script detection rate of >90%.**

Research Experience

CySIS Lab (Arizona State University)
Adviser: Dr. Paulo Shakarian
August 2014 – present
Tools: Python, PostgreSQL, Prolog, tcpflow.

1. *Cyber-attribution:* Identifying cyber adversaries using argumentation and machine learning models (knowledge base: 10 million attacks).
2. *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 (collecting 305 threats a week).
3. *Malware task identification:* Identifying the tasks that a piece of malware was designed to perform on the system (adversarial intent) using cognitive models.

Brain Engineering Lab (Dartmouth College)
June 2012 – July 2014
Tools: MATLAB, C++, OpenCV.
Learning representations for Object recognition and localization in image and video using biologically inspired algorithms.

SUNY Upstate medical University
June 2011 – May 2012
Tools: MATLAB.
Developing image processing algorithms to analyze brain and retinal images.

Patents/License

1. Systems and Methods for Data Driven Malware Task Identification. Submitted, 2016. **Provisional: 62/182,006. Selected for TechConnect 2016 Innovation Showcase.**
2. Intelligent darkweb crawling infrastructure for cyber threat intelligence collection. Licensed to Intellispyre Inc. **Provisional: 62/409,291. Technology featured in Forbes, MIT Tech Review, ACM TechNews, Cisco Continuum**.

Technical skills

Machine learning:
Classification, regression, clustering, anomaly detection, feature engineering, online learning, scikit-learn, Weka, basic experience with deep learning (Theano and Caffe).

Programming languages and tools:
Python, MATLAB, C++, Prolog, HTML, OpenCV, Theano, LaTeX, SVN, Git, Photoshop. Familiar with C, PHP, LISP, R, Caffe.

Databases:
SQL, PostgreSQL, MYSQL.

Operating systems:
Windows, Linux, Mac OS X.

Referred Publications

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