ARSHIYA KHAN

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EDUCATION

University of Delaware   Newark, DE
Ph.D., Network & Data Science   Expected; May 2023
GPA: 3.77
Thesis: Evaluate network security using advanced AI

University of Delaware   Newark, DE
Master of Science, Cybersecurity   May 2019
GPA: 3.80
Thesis: Curated an Expansive Taxonomy Model for network traffic to perform ML-based anomaly detection

RESEARCH PROJECTS

- Designed Twitter user profiler from scratch using Twitter API. Dealt with sparsity and dimensionality reduction on Large scale ML
- Built a signal classification model using 1-Dimensional CNN to classify multi-tonal sounds. Delivered 96% accuracy by visualizing sound waves in the Time series domain
- Achieved 91% accuracy on NLP-based Twitter Bot Detection model developed on Multinomial Naïve Bayes bag-of-words model

PUBLICATIONS

- Authored "Detecting Attacks on IoT Devices using Featureless 1D-CNN" for IEEE Conference on Cybersecurity and Resilience 2021. Focused on removing the dependence on domain experts for malware detection in network traffic
- Published "Efficient Attack Detection in IoT Devices using Feature Engineering-Less Machine Learning" in the International Journal of Computer Science and Information Technology, December 2022 issue

TECHNICAL SKILLS

Tools: OpenCV, PIL, Pandas, NumPy, scikit-learn, matplotlib, Seaborn, NLP, Flask, Google Colab, Jupyter Notebook
Frameworks: PyTorch, TensorFlow, Keras, Anaconda, GitHub, Google Firebase, AWS
Languages: Python, R, MATLAB, Bash, Java, C, C++

WORK EXPERIENCE

Graduate Teaching Assistant | University of Delaware   February 2019 - Present
- Developed and taught 2 graduate-level classes on the implementation of ML techniques for anomaly detection in large-scale data sources like raw pcap files and compiled network logs from Zeek
- Collaborate with professors to guide 200+ students and mid-career professionals through 7 semesters as TA. Resolve technical and conceptual difficulties faced by students in conducting ML experiments
- Evaluated 50 assignments in advanced cryptography, defensive cyber activity, digital forensics, and adversarial machine learning (AML) courses

Backend & Analytics Developer | Women Plus Blockchain   May 2018 - August 2018
- Utilized AWS cloud console to run 25 web crawlers with beautiful soup to collect articles from blockchain news outlets. Filtered relevant articles using keyword search techniques to be published in a newsletter
- Streamlined automated reports from MailChimp API to interpret user engagement. Incremented subscriber base by 17%
- Incremented subscribers by 150 by restructuring Google analytics dashboards by adding heatmaps and click maps in 4 months

System Engineer | Tata Consultancy Services Ltd   September 2014 - April 2017
- Led an application team of 5 members to support and maintain a telecom banking application. Coordinated meetings with clients in 2 countries, third-party vendors, and onsite teams for the timely resolution of critical incidents and application development
- Deployed changes to the production environment after software testing of bill pay, talk time, and SMS functionalities once a week
- Reduced cost of work by 90% by automating the generation and error handling of daily business intelligence reports using VBA

LEADERSHIP EXPERIENCE

- Spearheaded a team of 4 researchers at JPMC Data for Good Hackathon 2021. Designed and presented a forecasting model using logistic regression along with data augmentation techniques
- Chaired graduate student peer mentoring organization at the University of Delaware 2020-22 with 200 mentors and 350 mentees