

ARSHIYA KHAN

arshiyak@udel.edu | [LinkedIn](#) | [Website](#) | EAD available

EDUCATION

University of Delaware

Ph.D., Network & Data Science

GPA: 3.72

Thesis: Security practices in Large Language Models (LLMs)

Newark, DE

Expected; May 2025

University of Delaware

Master of Science, Cybersecurity

GPA: 3.80 (Concentration in Security Analytics)

Thesis: Curated an Expansive Taxonomy Model for network traffic to perform ML-based anomaly detection for new attack signals.

Newark, DE

May 2019

PUBLICATIONS

- Authored "Detecting Attacks on IoT Devices using Featureless 1D-CNN" for the IEEE CSR 2021. Focused on removing the dependence on domain experts for malware detection in network traffic using supervised deep learning.
- Submitted "Code Vulnerability Repair with Large Language Model using Context-Aware Prompt Tuning" in IEEE ICASSP 2024.

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.

TECHNICAL SKILLS

Tools: Visual Studio Code, Pandas, Google Colab, NumPy, Scikit-learn, OpenCV, PIL, Matplotlib, Seaborn, Flask, Docker

Frameworks: Hugging Face, Transformers, PyTorch, TensorFlow, Keras, Anaconda, GitHub, PySpark

Languages: Python, R, MATLAB, Bash, Java, MySQL

WORK EXPERIENCE

Graduate Teaching Assistant | University of Delaware

February 2019 - Present

- Developed and taught a graduate-level class (Topics in Cybersecurity) on implementing ML techniques for anomaly detection in large-scale data sources like packet captures and compiled network security logs from Zeek and Adversarial Machine Learning (AML) and reinforcement learning techniques.
- 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 and policy, digital forensics, and 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 across two countries, third-party vendors, and cross-functional teams for the timely resolution of critical security incidents and vulnerabilities within the application.
- Deployed changes to the production environment after software testing of bill pay, talk time, and SMS functions 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 and data augmentation techniques.
- Chaired graduate student peer mentoring organization at the University of Delaware 2020-22 with 200 mentors and 350 mentees.