Yeaseen Arafat

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Dialectic interests

- **Confluence of Computing Systems, Software plus Cyber Security**, software vetting; bug discovery; fuzzing compilers, decompilers and transpilers; vulnerability triage; program analysis: static and dynamic; return-oriented programming; reverse engineering; reconnaissance; vulnerability scanning; penetration testing attack
- **Onto Secure Systems**, privilege separation; capabilities escalation; input sanitization; code obfuscation; ambiguous translation; containerization; sandboxing; virtualization;
- **CTFs & Wargames**

Education

The University of Utah
PhD in Computer Science — *August 2023 – Present*
Supervisor: Dr. Stefan Nagy

Bangladesh University of Engineering and Technology (BUET)
B.Sc. Engg. in Computer Science and Engineering — *February 2015 – April 2019*
Supervisor: Dr. A.K.M. Ashikur Rahman

Professional Experience

Graduate Research Fellow — August 2023 – Present
Kahlert School of Computing, University of Utah — *Utah, USA*
Lecturer — June 2019 – On Leave
Computer Science and Engineering, Southeast University — *Dhaka, Bangladesh*

Research Experience

A Machine Learning Approach for Protecting Wireless Networks Against Virtual Jamming Based Denial of Service (DoS) Attacks [Thesis] — B.Sc. Thesis
Under the supervision of Dr. A.K.M. Ashikur Rahman, Dept. of CSE, BUET

Publications

Conference:

- ***Yeaseen Arafat***, Kazi Samin Yeaser, Ashikur Rahman, Arnab Dasgupta,"A Machine Learning based Approach for Protecting Wireless Networks Against DoS Attacks", in Proceedings of the 7th International Conference on Networking, Systems and Security (7th NSysS 2020), December 22-24, 2020, Dhaka, Bangladesh. ACM, New York, NY, USA, 126–132. [Paper link]

Notable Academic Projects

IInstagram : Social media | *MERN Stack* — GitHub
- A social media app inspired by Instagram.

A subset of C compiler | *Flex, Bison, Yacc* — GitHub
- The compiler converts C files all the way to intermediate code generation.

ADD Nachos, OS_Features | *C++, Make, Nachos* — GitHub
- This OS-build project is an extension of Nachos, a UNIX-like OS.
- The vanilla Nachos is extended by basic multi-programming and Virtual Memory Manager.

ML projects | *Python* — GitHub
- Scratch-implementation of pattern recognition models and some renowned ML models
- Decision Tree(ID3) with AdaBoost, Perceptrons, Recommender
- Artificial Neural Network, Channel Equalizer

EventPlanner | *MERNG Stack* GitHub

- This SPA is for planning events and tracking event logs.

Angry Birds | *C, iGraphics* GitHub

- A casual puzzle video game based on an Android game of the same name.

Play & Learn : All about cognition | *Android Native* GitHub

- A simple Android app for children on the spectrum, by which they can learn through play.

DDD: Drunk Driver Detector | *Node ESP8266, MQ-5, DC Motor, LCD* YouTube

- This project aims to detect any alcoholic driver to avoid unnecessary accidents.

Amazon Echo : Home automation | *Raspberry Pi 3, Amazon Alexa, Node ESP8266* YouTube

- Voice assistant for users to remotely turn on and off electric devices.

Award & Honors

- Graduate Fellowship at The University of Utah (2023)
- University Merit Scholarship from BUET (2015-2018)
- Junior Government Scholarship, Chittagong Education Board, Bangladesh (2009)

Activities

- **Organizing Committee Member:** ACM ICPC ASIA Regional, Dhaka Site 2019

Technical Skills

Programming Languages: C/C++, Python, Java, Wasm, Assembly (Intel ×86, MIPS)
Secuirity Testing: AFL, AFL++, Burp Suite, sqlmap, Havij
Data Science Libraries: Tensorflow, Keras, NumPy, scikit-learn, Pandas, Matplotlib
Frameworks: React, Node.js, Express.js, Android Native, JavaFX, Java Swing
Scripting & Modeling: LaTeX, HTML, JavaScript, TypeScript, Shell Script, UML, ER Diagram
Blockchain tech: Ethereum, Smart Contracts, Solidity, Truffle Suite
DevOps & PaaS: GitHub, Docker, REST API, GraphQL, Heroku
Other tools: Nachos, Makefile, Git, Flex, Bison, YACC, OpenGL, iGraphics
Database: MongoDB, Neo4j, Oracle SQL, MySQL
Networking Tools: Cisco packet Tracer, ns-2
OS: Kali Linux, Ubuntu, Mac, Raspbian
Embedded Systems: Logisim, Arduino, Node MCU, ATMega32, RaspberryPi 3, AVR micro-controllers

References

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