Shrikar Vasisht

svasisht@umd.edu ● shricubed.github.io/portfolio ● github.com/shricubed ● 240-620-8937

EDUCATION

University of Maryland, *College Park*   Expected Graduation - 12/2023
  B.S. in Computer Science and Applied Mathematics, Advanced Cybersecurity Experience for Students (ACES) Minor
  Relevant Coursework: Algorithm Analysis and Design, Compilers, Abstract Algebra, Graph Theory, Computer Security, Data Structures, Organizations of Programming Languages, Python Web Development, Linear Algebra, Multivariable Calculus, Number Theory, Probability Theory

EXPERIENCE

Cyber Security Engineering Intern, *Leidos Inc.*   June 2022 - August 2022
- Used the BERT natural language processing (NLP) model along with the Pandas and Numpy Python libraries to develop a system that categorizes zero-day exploits based on the Common Vulnerabilities and Exposures (CVE) catalog of previous vulnerabilities and patches
- Extracted a variety of data points from the CVE descriptions with the Spacy library and visualized the relations between different CVEs using TypeDB
- Created an internal tool using the Pandoc Python API that allows Markdown files to be converted to Microsoft Word documents; to be used on Leidos proposals and whitepapers

Research Intern, *University of Maryland Breakerspace Lab*   June 2021 - May 2022
- Worked under Dr. Dave Levin on vPing, a system to gather data about VPNs and their users by using network protocols to identify and geolocate the clients.
- Worked on Bento, a modified version of Tor that allows for middleboxes to run different functions
- Developed an implementation of the MQTT network protocol using the Python Sockets library to run on Bento.

Research Intern, *University of Maryland*   May 2019 - December 2020
- Implemented a machine learning algorithm in Python for the game Nim With Cash using reinforcement learning techniques under Dr. Bill Gasarch.
- Identified parameters that lead the ML engine to perform better against a strategy game like 'NIM with cash'.
- Implemented the Linear Congruential Generator random number generation algorithm in Python and cracked it based on encrypted text.

STIC Student Facilitator, *University of Maryland*   August 2022 - Present
- Organize and co-teach a student-led course on Web Development w/ Python and Flask
- Help design coding projects and quizzes for students, and assist in office hours when needed

Teaching Assistant, *UMD Smith School of Business*   September 2021 - December 2021
- TAed for a web application development class (BMGT406) for business and information systems students
- Helped students with coding projects using HTML, CSS, Javascript, and SQL

Club Secretary, *UMD Cybersecurity Club*   May 2021 - May 2022
- Designed graphics, sent out emails and social media posts for weekly club meetings and other events
- Communicated with companies for sponsorship of the club
- Created an Instagram page for the club to advertise meetings and events

PERSONAL PROJECTS

Sanskrit Pronunciation Helper, *Python*   December 2022 - Present
- Developing a Flask app where users can record themselves reading sentences in Sanskrit and compare to the correct pronunciation
- Uses the algorithms included in the Librosa library to compare audio files and generate a similarity score

Hebi, *Python*   Spring 2021 - Winter 2021
- Python tool to easily access and manipulate data about anime series and films from an already existing database
- Uses JSON manipulation libraries to extract different data points based on user requests

COMPUTER AND PROGRAMMING SKILLS

Programming Languages: Python, Java, C, Rust, OCaml, Ruby, Racket, x86, HTML/CSS, SQL/Database Management
Concepts: Cryptography, Cyber Forensics, Data Structures (Trees, Lists, Maps, Stack/Queue, Geometric Structures), Multithreading, Software/Web Security
Software: GDB, Git, MATLAB, Microsoft Office, Google Docs/Slides/Sheets, Vim, LaTeX
Tools and Libraries: Flask, Jinja2, Pandas, Numpy, Linux/Unix, Wireshark

EXTRACURRICULAR ACTIVITIES

CTFs and Programming Competitions,
- Wrote challenges for UMDCTF 2021 and 2022 in a variety of cybersecurity subdomains.