Shrikar Vasisht

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

Education

Georgia Institute of Technology August 2024 - December 2026
M.S. in Computer Science

University of Maryland, *College Park* September 2020 - May 2024
B.S. in Computer Science and Applied Mathematics, Advanced Cybersecurity Experience for Students (ACES) Minor
Relevant Coursework: Operating Systems, Real Analysis, Algorithm Analysis and Design, Advanced Compilers, Abstract Algebra, Graph Theory, Computer Security, Data Structures, Programming Languages, Python Web Development, Linear Algebra, Multivariable Calculus, Number Theory, Probability Theory

National University of Singapore January 2024 - May 2024
Exchange Program

Experience

Product Security Engineering Intern, *Cisco* June 2023 - August 2023
- Worked on the security team for the Duo 2-factor authentication service, which has more than 100,000 users worldwide.
- Designed and implemented a fuzzing harness and fuzzer from scratch in Python and C++ for the jsoncpp C++ library; used the fuzzer to find possible bugs in the Duo Windows Logon software.

Security Engineering Intern, *Leidos* June 2022 - August 2022
- Utilized 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

Research Intern, *University of Maryland Breakerspace Lab* June 2021 - May 2022
- Contributed to the development of vPing, a system to gather data about VPNs and their users
- Utilized the Python sockets and async libraries to identify and geolocate the clients.

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 - June 2023
- Organized and co-taught a student-led course on Web Development w/ Python and Flask
- Designed coding projects and quizzes for students, and assisted in office hours when needed

Teaching Assistant, *UMD Smith School of Business* September 2021 - December 2021
- Assisted professor for a web application development class (BMGT406) for business and information systems students
- Provided constructive feedback to students regarding programming assignments using HTML, CSS, Javascript, and SQL

Secretary, *UMD Cybersecurity Club* May 2021 - May 2022
- Developed and tested cybersecurity challenges for UMDCTF 2021 and 2022 relating to cryptography and forensics

Personal Projects

Operating System Feature Implementation, *C and Assembly* August 2023 - December 2023
- Implemented functionality for the pipe and fork syscalls, virtual memory, and a filesystem using C and Assembly language

Sanskrit Pronunciation Helper, *Python* December 2022 - January 2023
- Developed a Flask app where users can record themselves reading sentences in Sanskrit and compare to the correct pronunciation
- Utilized the algorithms included in the Librosa library to compare audio files and generate a similarity score

Computer and Programming Skills

Programming Languages: Python, Java, C, Rust, C++, OCaml, Ruby, Racket, x86, Bash, HTML/CSS, PostgreSQL
Topics: Operating Systems, Data Structures, Multithreading, REST APIs, Algorithm Analysis, Applied Cybersecurity, Distributed Systems, Compilers, Computer Networks
Software and Tools: Linux Command Line, Wireshark, GDB, Ghidra, MongoDB, Git, MATLAB, Vim, LaTeX