

## EXPERIENCE

### Offensive Security Engineer

TikTok USDS

September 2024 – Present

New York, NY

- Conducted offensive security tests and assessments to identify vulnerabilities and misconfigurations, providing actionable recommendations to mitigate risks and improve security controls' effectiveness.
- Developed threat models for systems and controls, identifying potential threats and vulnerabilities, and prioritized remediation efforts based on criticality and impact.
- Utilized advanced penetration testing, red teaming, and threat detection techniques to simulate adversarial tactics and assess the robustness of protective, detective, and responsive security controls.
- Automated security testing and monitoring processes to enhance the efficiency and effectiveness of control assessments, ensuring continuous protection against evolving threats.

### Offensive Cybersecurity Consultant

RSM US LLP

July 2021 – July 2024

Chicago, IL

- Performed red team, physical penetration, & network penetration testing as a technical lead of the close access and network exploitation teams.
- Mentored and led testing across web application, LLM/AI models, wireless network, social-engineering, cloud penetration testing, & configuration review assessments (AWS).
- Developed Python and Tmux automation framework to streamline network penetration testing organization & automating attacks; reducing start-up time by 85% for testers.
- Built modular scanner and reporting utility with Python and Docker to asynchronously run security tooling, including AWS configuration and code review, before consolidating output into standardized findings for reporting.
- Created a long-range RFID badge cloner using microcontroller devices with live credential reading through a Raspberry Pi wireless AP.
- Provided actionable remediation recommendations to client executives by delivering breach vector reports, enabling risk reduction & minimizing liability exposure for Fortune 10 technology companies, Fortune 500 financial institutions, & private clients.

### Security Software Engineering Intern

Synopsys

May 2020 – Dec 2020

Bloomington, IN

- Automated AB-testing analysis through Python scripting report comparison, resulting in a 40% reduction in manager analysis time.
- Aggregated assessment data across Netsparker, AppScan, & BurpSuite through Jira & PostgreSQL, facilitating tracking of vulnerability trends.
- Designed & implemented an automated Tableau storyboard for senior managers & C-level to track trends across assessments.

### Penetration Security Consulting Intern

RSM US LLP

Jun 2019 – Aug 2019

Chicago, IL

- Performed assisted network and web application penetration testing on client engagements.
- Developed Visual Basic macros & Python scripts for automating drafting/draft handling in Excel.
- Measured client compliance within NIST CSF assessments through direct communication with key stakeholders.

### Undergraduate Instructor: Intro. to Python Programming

Indiana University

Sep 2018 – Jun 2020

Bloomington, IN

- Developed & maintained Python scripts to facilitate autograding of 200+ students.
- Led and assisted instruction for student groups of 20-45 through 55 exercises & labs regarding Python.

## EDUCATION

### B.A. in Computer Science

Indiana University

Aug 2017 – May 2021

Bloomington, IN

Relevant Courses: Data Structures, Machine Learning, Relational Databases, Networking, C and Unix, Discrete Mathematics, Linear Algebra

## TECHNICAL SKILLS

**Certifications:** PNPT, SANS GPCS, CompTIA CySA+, AWS Certified Cloud Practitioner

**Security:** Red Team, Internal/External Network, Web Application, Physical, & Social Engineering Penetration Testing

**Languages:** C/C++, Python, SQL, JavaScript, HTML/CSS, Unix Bash

**Miscellaneous:** AWS, Docker, Containerization, Linux, Tenable Nessus, Forklift-certified, Cobalt Strike

## PROJECTS

### Scylla

2023 – Present

- Orchestration and automation tool developed using Bash and Python to support efficient and consistent internal network penetration testing.

### PassMasker

2024

- Analyze a list of passwords using novel bucket-sort implementation to improve computation by 40% and provide an analysis of the the passwords into a mask ingestible to hashcat.

### Tor Browser Fingerprinting Research

2019

- Measured comparative data sets to determine Tor browser's anti-fingerprinting capabilities and develop an algorithm to bypass controls.

## VOLUNTEERING

### #HashtagLunchbag Volunteer

2022 – 2024

- Packed lunches to help prepare meals for Pacific Garden Mission homeless shelter.