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Ryan Mower

OBJECTIVE:
A master's computer science student seeking an opportunity to test applications for vulnerabilities, develop exploits for discovered vulnerabilities, and help improve overall system security.

EDUCATION:
College
- University of Minnesota, Twin-Cities, College of Science and Engineering 2019-2023
- Bachelor | Master of Science in Computer Science
- North Dakota State University 2018-2019
- GPA: 4.00

Coursework
- Operating Systems I, II
- Machine Architecture
- Computer Networks I, II, III
- Advanced Programing
- Secure Software Systems I, II, III
- Parallel/Distributed Computing

2020-2022

TECHNICAL SKILLS AND COMPUTER SCIENCE KNOWLEDGE:
- BurpSuite, Ghidra, AFL Fuzzer, Metasploit, Nmap, LLVM
- C/C++, Java, Python, SQL, Git, Docker JavaScript
- Linux, Windows, Macintosh, 5G Network, VIM
- Microsoft Office, Google Suite, PwnTools

ACCOMPLISHMENTS:
- First author on *Graphics Card Based Fuzzing* – IEEE Computer Society
- Dean's List 2019-2022

WORK EXPERIENCE:
Network and Security Research Assistant 2022
- Compiled 5G network infrastructure with CFI enabled via the LLVM framework
- Reverse engineered IoT devices, fuzzed 5G network protocols and discovered vulnerabilities
- Captured and sanitized egress data from IoT devices with fake information to the cloud

Optum Software Security Engineer Summers of 2021-2022
- Developed web portal, performed agile development with DevSecOps
- Interacted with: REST API's, LDAP, MySQL, Kubernetes, Docker, Express, React
- Scanned applications with Fortify, pentested web portal, fixed vulnerabilities
- Collaborated with teammates and peers, practiced daily scrums, presented project

Research Experience for Undergraduates in Cybersecurity Summer of 2019
- Researched fuzzing techniques and how to incorporate parallel computing for GPU
- Wrote parallel computing code for GPU, published technical paper, analyzed data

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INDEPENDENT WORK:
Developed Minecraft Mods Summer of 2022 - Present
- Reverse-engineered Minecraft, developed fly hack via a TCP proxy

Actively Compete in Hack the Box 2020-Present
- Pentest boxes using Nmap, Gobuster, Metasploit, BurpSuite, Hashcat, and other tools

Command and Control Server Summer of 2021
- Developed C&C server to control a botnet using socket programming in Python

Python Ethical Hacking Course 2019 - 2020
- Created ARP spoofer, ARP spoof detector, DNS spoofer, MAC changer
- Network sniffer, scanner and cutter, keylogger, download replacer, code injector

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INVOLVEMENT:

2019 - 2022
- UMNTC Association for Computing Machinery
- UMNTC Intramural Soccer
- UMNTC Club Alpine Ski Team (Vice President)

2018 - 2019
- NDSU Cyber Security Student Association
- NDSU Men's Club Soccer Team