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Ryan Mower

OBJECTIVE:
A master's computer science student seeking an opportunity to discover CVE vulnerabilities with machine learning.

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
- Advanced Programing
- Secure Software Systems I, II 2020-2021
- Parallel Computing

TECHNICAL SKILLS AND COMPUTER SCIENCE KNOWLEDGE:
- C/C++, Java, Python, OCaml, MATLAB, R, AFL Fuzzer
- MySQL, Git, Docker, Kubernetes, JavaScript, Django
- Linux, Windows, Macintosh
- Microsoft Office, Google Suite

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

WORK EXPERIENCE:
Optum Data Analysis Summer of 2021
- Developed machine learned models with XGBoost, analyzed data for trends
- Utilized Pandas library for data wrangling, modeled and interpreted data
- Presented project to leadership, collected data via REST API's and SQL queries

Optum Software Security Engineer Summer of 2020, 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 autonomous vulnerability discovery, communicated efficiently with peers
- Analyzed data, critically thought about challenging problems, published technical paper

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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 - Present
- 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