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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

* Computer Networks I, II
* Advanced Programing
* Secure Software Systems I, II
* Parallel Computing
* Operating Systems I, II
* Machine Architecture

2020-2021

**ACCOMPLISHMENTS:**

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

**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

**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

**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

2019 - Present

2018 - 2019

**INVOLVEMENT:**

* UMNTC Association for Computing Machinery
* UMNTC Intramural Soccer
* UMNTC Club Alpine Ski Team (Vice President)
* NDSU Cyber Security Student Association
* NDSU Men’s Club Soccer Team