

# Ryan Mower

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## OBJECTIVE:

A fourth-year computer science student seeking an internship specializing in cybersecurity, with an emphasis on penetration testing, malware detection, vulnerability discovery, and defense.

## 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
- Computer Networks
- Secure Software Systems 2020-2021
- Machine Architecture
- Advanced Programing
- Parallel Computing

## TECHNICAL SKILLS AND COMPUTER SCIENCE KNOWLEDGE:

- C/C++, Java, Python, OCaml, MATLAB, R
- 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 2019-2021

## 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

- Developed web portal, performed agile development with DevSecOps
- Interacted with: REST API's, LDAP, MySQL, Kubernetes, Docker, React framework
- 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, wrote technical paper

## INDEPENDENT WORK:

### 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

### Website (HostASKier)

Summer of 2021

- Used Django web-framework to create blog-style website for connecting water-skiers and waterskiing hosts via certain constraints
- Features: Various privileged user accounts, user authentication, SQLite, forms, profiles

## INVOLVEMENT:

2020 - Present

2019 - 2020

- UMNTC Association for Computing Machinery
- UMNTC Intramural Soccer
- UMNTC Club Alpine Ski Team
- NDSU Cyber Security Student Association
- NDSU Men's Club Soccer Team