

# ALEXANDER KOROBCHUK

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## EDUCATION

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**University of Colorado Colorado Springs**

*August 2017 - Present*

Major: Computer Security

Year: Senior

Set Graduation Date: May 2021

GPA: 3.328

**Coursework:** Computer Networks, Computer Architecture, System Administration & Security, Assembly Language Programming, Computer Information Systems, Network Penetration Testing

## SKILLS

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**Network Security:** Metasploit, Burp Suite, Nmap, Dirbuster

**Languages:** C#, C, Python, Java, Assembly, HTML

**Data Science:** Machine learning, neural networks

**Design:** Multiple semesters of teamwork with real clients on design and development

## PROFESSIONAL EXPERIENCE

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**Cybersecurity Intern — The Aerospace Corporation**

*June 2020 - August 2020*

- Adapted existing network architecture to better suit cyber assessments.
- Assisted in the maintenance and development of a multi site cyber lab concept.
- Developed innovative solutions to perform cyber assessments on weapon systems.

## PROJECT EXPERIENCE

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**Virtual Strategic Missile Integration Complex**

- Assisted with the process of virtualizing the Air Force's Strategic Missile Integration Complex.
- Developed a script that automates validation/verification of simulated weapon system circuits.
- Automatically performs comprehensive tests and returns the results in a matter of seconds.

**Colorado Cyber Innovation Center**

- Architected a new solution to enhance the current network infrastructure.
- Aimed for multiple virtual local area networks to enable the virtual separation of physical labs.
- The new architecture would allow for simultaneous cyber assessments across all lab locations.

**Cooperative Research and Development Agreement**

- Researched the power usage and thermal output of the equipment in the cyber lab.
- Outlined the typical and maximum power usage/thermal output.
- Ensured that the cooling and power was sufficient to handle the equipment.

**Network Security Dataset Design with Neural Networks**

- Researched creating custom network security datasets for machine learning tasks.
- Input raw packet data and extracted  $n \times 1$  dimensional vectors with a neural network model.
- Trained a machine learning model on these vectors to detect malicious packets on a network.

## ACHIEVEMENTS

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**Dean's List (2018):** Achieve a GPA of 3.0 or above with 12 or more credit hours.

**Colorado Cybersecurity Scholarship (2019):** For students in the cybersecurity program at UCCS.

**President's List (2020):** Achieve a GPA of 3.5 or above with 12 or more credit hours.