NCL Spring 2021 Team Game Scouting Report

Dear Simon Chu (Team "Cyber Comets"),

Congratulations on a great NCL 2021 Spring Team Game!

National Cyber League (NCL)

The NCL was founded in May 2011 to provide an ongoing virtual training ground for collegiate students to develop, practice, and validate their cybersecurity skills. The NCL is a next-generation learning and gaming environment using high-fidelity and scenario-based challenges from Cyber Skyline. The challenges are designed around industry recognized and performance-based exam objectives to further develop student skills. If you have any questions regarding the information in this report please inquire at info@nationalcyberleague.org.

NCL 2021 Spring Season

The NCL 2021 Spring Season was designed to develop and validate player knowledge and skills in preparation for further learning, career readiness, industry certifications, and other cybersecurity competitions. The games were designed around performance-based exam objectives of CompTIA certifications and the National Initiative for Cybersecurity Education (NICE) Cybersecurity Workforce Framework published by the National Institute of Standards and Technology (NIST).

The NCL 2021 Spring Season began with the Preseason round to group players into one of three competition brackets based on skill level: Gold (top 15% of all players nationally - 629 players), Silver (the next 35% of all players nationally - 1456 players) or Bronze (the next 50% of all players nationally - 2094 players). Players who did not participate in the Preseason were not bracketed or ranked. This made the Individual Game more engaging by grouping players with similar knowledge and skill levels together. At the beginning of the NCL 2021 Spring Season, 6380 students/players and 425 faculty/coaches from more than 520 two- and four-year schools across all 50 U.S. states registered to play.

The Individual Game Capture the Flag (CTF) event took place from March 26 through March 28. The Team Game CTF event took place from April 9 through April 11. The games were conducted in real-time for students across the country.

The NCL 2021 Spring Season was powered by Cyber Skyline's cloud-based skills evaluation platform. Cyber Skyline hosted the scenario-driven cybersecurity challenges for all players to compete and track their progress in real-time.

To validate this report, please access: cyberskyline.com/report/KVXLX4X96Q0B

Based on the the performance detailed in this Scouting Report, Simon Chu has earned **13 hours** of Continuing Education Units (CEUs) as approved by CompTIA. You can learn more about the NCL - CompTIA alignment via nationalcyberleague.org/comptia

Thank you for your participation in the NCL 2021 Spring Team Game! We hope you will continue to develop your knowledge and skills and make meaningful contributions as part of the Information Security workforce!

Dr. Dan Manson
NCL Commissioner

NCL Scouting Report

What follows is a customized NCL Scouting Report of your performance in the NCL 2021 Spring Team Game. We hope you find it to be valuable in both confirming your skills and identifying areas for improvement. In addition, the NCL Scouting Report can be used as part of any job application, as it provides an external validation of skills as demonstrated in competitive gameplay based on industry-recognized certification exam and framework objectives.

The following definitions apply to your performance across a range of cybersecurity scenarios

- **National Rank:** overall place with respect to all players, across all Brackets
- **Bracket Rank:** overall place within the Bracket
- **Performance Score:** total points earned; the higher the score, the higher the ranking
- **Accuracy:** percentage of flag submissions that were correct (total flag captures divided by total flag attempts).
- **Completion:** percentage of possible flags submitted (total flag captures divided by total possible flags).

The following are the categories of cybersecurity scenarios that you were evaluated against:

1. Cryptography
   Identify techniques used to encrypt or obfuscate messages and leverage tools to extract the plaintext.
2. Enumeration & Exploitation
   Identify actionable exploits and vulnerabilities and use them to bypass the security measures in code and compiled binaries.
3. Forensics
   Utilize the proper tools and techniques to analyze, process, recover, and/or investigate digital evidence in a computer-related incident.
4. Log Analysis
   Utilize the proper tools and techniques to establish a baseline for normal operation and identify malicious activities using log files from various services.
5. Network Traffic Analysis
   Identify malicious and benign network traffic to demonstrate an understanding of potential security breaches.
6. Open Source Intelligence
   Utilize publicly available information such as search engines, public repositories, social media, and more to gain in-depth knowledge on a topic or target.
7. Password Cracking
   Identify types of password hashes and apply various techniques to efficiently determine plaintext passwords.
8. Scanning & Reconnaissance
   Identify and use the proper tools to gain intelligence about a target including its services and potential vulnerabilities.
9. Web Application Exploitation
   Identify actionable exploits and vulnerabilities and use them to bypass the security measures in online services.

Based on the performance of the top ranking member in the Individual Game, Simon Chu's team "**Cyber Comets**" was placed into the **Gold Bracket** for the Team Game.

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NCL Spring 2021 Team Game

The NCL Team Game is designed for student players nationwide to compete in realtime in the categories listed below. The Team Game promotes camaraderie and evaluates the collective technical cybersecurity skills of the team members.
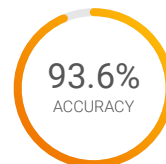
39 TH PLACE OUT OF 922
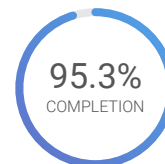NATIONAL RANK

34 TH PLACE OUT OF 116
GOLD BRACKET RANK

2705 POINTS OUT OF 2965
PERFORMANCE SCORE

93.6% ACCURACY

95.3% COMPLETION

96th
National Percentile

71st
Gold Bracket Percentile

Averages
National: 985.5
Gold Bracket: 2320.6

National: 49.7%
Gold Bracket: 81.0%

National: 38.6%
Gold Bracket: 82.6%

Category	Points	Accuracy	Completion
Cryptography	320 POINTS OUT OF 320	100.0% ACCURACY	COMPLETION: 100.0%
Enumeration & Exploitation	225 POINTS OUT OF 330	66.7% ACCURACY	COMPLETION: 71.4%
Forensics	330 POINTS OUT OF 330	93.3% ACCURACY	COMPLETION: 100.0%
Log Analysis	330 POINTS OUT OF 330	95.5% ACCURACY	COMPLETION: 100.0%
Network Traffic Analysis	340 POINTS OUT OF 340	95.7% ACCURACY	COMPLETION: 100.0%
Open Source Intelligence	325 POINTS OUT OF 325	92.9% ACCURACY	COMPLETION: 100.0%
Password Cracking	300 POINTS OUT OF 300	100.0% ACCURACY	COMPLETION: 100.0%
Scanning & Reconnaissance	305 POINTS OUT OF 305	100.0% ACCURACY	COMPLETION: 100.0%
Web Application Exploitation	130 POINTS OUT OF 285	85.7% ACCURACY	COMPLETION: 60.0%

Note: Survey module (100 points) was excluded from this report.

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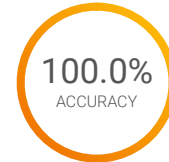Simon Chu
schu8251@student.palomar.edu

Cryptography Module

Identify techniques used to encrypt or obfuscate messages and leverage tools to extract the plaintext.

1ST PLACE
OUT OF 922
NATIONAL RANK

1ST PLACE
OUT OF 116
GOLD BRACKET RANK

320 POINTS OUT OF 320
PERFORMANCE SCORE

100.0% ACCURACY

100.0% COMPLETION

100th
National Percentile

100th
Gold Bracket Percentile

Averages
National: 131.1
Gold Bracket: 273.8

National: 52.6%
Gold Bracket: 87.3%

National: 44.7%
Gold Bracket: 87.2%

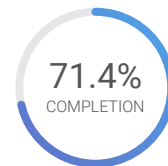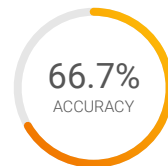|	Points	Accuracy	Completion
Decoding 1 (Easy)	25 POINTS OUT OF 25	100.0% ACCURACY	COMPLETION: 100.0%
Decoding 2 (Easy)	25 POINTS OUT OF 25	100.0% ACCURACY	COMPLETION: 100.0%
Decoding 3 (Medium)	25 POINTS OUT OF 25	100.0% ACCURACY	COMPLETION: 100.0%
Decoding 4 (Medium)	25 POINTS OUT OF 25	100.0% ACCURACY	COMPLETION: 100.0%
Decoding 5 (Hard)	40 POINTS OUT OF 40	100.0% ACCURACY	COMPLETION: 100.0%
RSA (Hard)	55 POINTS OUT OF 55	100.0% ACCURACY	COMPLETION: 100.0%
Steg (Easy)	20 POINTS OUT OF 20	100.0% ACCURACY	COMPLETION: 100.0%
Two Faced (Medium)	45 POINTS OUT OF 45	100.0% ACCURACY	COMPLETION: 100.0%
Wav Stego (Hard)	60 POINTS OUT OF 60	100.0% ACCURACY	COMPLETION: 100.0%

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Enumeration & Exploitation Module

Identify actionable exploits and vulnerabilities and use them to bypass the security measures in code and compiled binaries.

49 TH PLACE OUT OF 922
NATIONAL RANK

43 RD PLACE OUT OF 116
GOLD BRACKET RANK

225 POINTS OUT OF 330
PERFORMANCE SCORE

66.7% ACCURACY

71.4% COMPLETION

95th
National Percentile

63rd
Gold Bracket Percentile

Averages
National: 49.8
Gold Bracket: 192.6

National: 32.9%
Gold Bracket: 63.4%

National: 18.0%
Gold Bracket: 61.0%

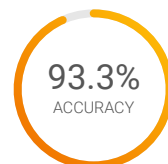|	Points	Accuracy	Completion
Source (Easy)	100 POINTS OUT OF 100	100.0% ACCURACY	100.0%
Mobile (Medium)	100 POINTS OUT OF 100	100.0% ACCURACY	100.0%
Word (Hard)	25 POINTS OUT OF 130	28.6% ACCURACY	33.3%

Forensics Module

Utilize the proper tools and techniques to analyze, process, recover, and/or investigate digital evidence in a computer-related incident.

28 TH PLACE OUT OF 922
NATIONAL RANK

25 TH PLACE OUT OF 116
GOLD BRACKET RANK

330 POINTS OUT OF 330
PERFORMANCE SCORE

93.3% ACCURACY

100.0% COMPLETION

97th
National Percentile

79th
Gold Bracket Percentile

Averages
National: 103.6
Gold Bracket: 274.0

National: 34.0%
Gold Bracket: 75.2%

National: 31.0%
Gold Bracket: 82.6%

	Points	Accuracy	Completion
PDF (Easy)	100 POINTS OUT OF 100	80.0% ACCURACY	100.0%
Magic Bytes (Medium)	100 POINTS OUT OF 100	100.0% ACCURACY	100.0%
Deleted Flag (Hard)	130 POINTS OUT OF 130	100.0% ACCURACY	100.0%

POWERED BY CYBER SKYLINE
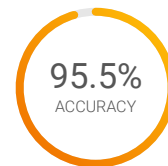
Simon Chu
schu8251@student.palomar.edu

Log Analysis Module

Utilize the proper tools and techniques to establish a baseline for normal operation and identify malicious activities using log files from various services.

20 TH PLACE OUT OF **922**
NATIONAL RANK

17 TH PLACE OUT OF **116**
GOLD BRACKET RANK

330 POINTS OUT OF 330
PERFORMANCE SCORE

95.5% ACCURACY

100.0% COMPLETION

98th
National Percentile

86th
Gold Bracket Percentile

Averages
National: 121.8
Gold Bracket: 285.6

National: 40.6%
Gold Bracket: 76.1%

National: 39.6%
Gold Bracket: 86.9%

	Points	Accuracy	Completion
Access (Easy)	100 POINTS OUT OF 100	100.0%	100.0%
Tasty (Medium)	110 POINTS OUT OF 110	88.9%	100.0%
Firewall (Hard)	120 POINTS OUT OF 120	100.0%	100.0%

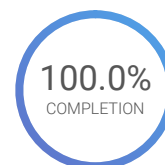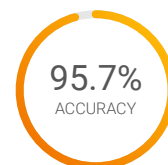# Network Traffic Analysis Module

Identify malicious and benign network traffic to demonstrate an understanding of potential security breaches.

13 TH PLACE OUT OF **922**
NATIONAL RANK

12 TH PLACE OUT OF **116**
GOLD BRACKET RANK

340 POINTS OUT OF 340
PERFORMANCE SCORE

95.7% ACCURACY

100.0% COMPLETION

99th
National Percentile

90th
Gold Bracket Percentile

Averages
National: 94.6
Gold Bracket: 277.6

National: 34.4%
Gold Bracket: 72.0%

National: 36.0%
Gold Bracket: 85.2%

	Points	Accuracy	Completion
NetBios (Easy)	50 POINTS OUT OF 50	100.0%	100.0%
Cracking (Medium)	70 POINTS OUT OF 70	100.0%	100.0%
Stolen IP (Medium)	110 POINTS OUT OF 110	88.9%	100.0%
USB Keyboard (Hard)	110 POINTS OUT OF 110	100.0%	100.0%

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Open Source Intelligence Module

Utilize publicly available information such as search engines, public repositories, social media, and more to gain in-depth knowledge on a topic or target.
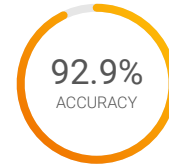
90TH PLACE OUT OF **922**
NATIONAL RANK

91st
National Percentile

49TH PLACE OUT OF **116**
GOLD BRACKET RANK

58th
Gold Bracket Percentile

325 POINTS OUT OF 325
PERFORMANCE SCORE

Averages
National: 211.3
Gold Bracket: 305.1

92.9%
ACCURACY

National: 57.2%
Gold Bracket: 86.7%

100.0%
COMPLETION

National: 67.4%
Gold Bracket: 94.2%

|				
Rules of Conduct (Easy)	**25** POINTS OUT OF 25	100.0% ACCURACY	COMPLETION:	100.0%
Time Machine (Easy)	**45** POINTS OUT OF 45	60.0% ACCURACY	COMPLETION:	100.0%
Sunday Drive (Easy)	**60** POINTS OUT OF 60	100.0% ACCURACY	COMPLETION:	100.0%
SHIELD (Medium)	**60** POINTS OUT OF 60	100.0% ACCURACY	COMPLETION:	100.0%
Hardware ID (Medium)	**60** POINTS OUT OF 60	100.0% ACCURACY	COMPLETION:	100.0%
Satellite Imagery (Hard)	**75** POINTS OUT OF 75	100.0% ACCURACY	COMPLETION:	100.0%

Password Cracking Module

Identify types of password hashes and apply various techniques to efficiently determine plaintext passwords.

2 ND PLACE OUT OF 922
NATIONAL RANK

2 ND PLACE OUT OF 116
GOLD BRACKET RANK

300 POINTS OUT OF 300
PERFORMANCE SCORE

100.0% ACCURACY
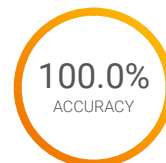
100.0% COMPLETION

100th
National Percentile

99th
Gold Bracket Percentile

Averages
National: 95.7
Gold Bracket: 236.5

National: 62.0%
Gold Bracket: 90.8%

National: 39.7%
Gold Bracket: 84.4%

|				
Hashing (Easy)	15 POINTS OUT OF 15	100.0% ACCURACY	COMPLETION:	100.0%
Cracking 1 (Easy)	30 POINTS OUT OF 30	100.0% ACCURACY	COMPLETION:	100.0%
Cracking 2 (Easy)	30 POINTS OUT OF 30	100.0% ACCURACY	COMPLETION:	100.0%
Cracking 3 (Medium)	45 POINTS OUT OF 45	100.0% ACCURACY	COMPLETION:	100.0%
Cracking 4 (Hard)	90 POINTS OUT OF 90	100.0% ACCURACY	COMPLETION:	100.0%
Cracking 5 (Hard)	90 POINTS OUT OF 90	100.0% ACCURACY	COMPLETION:	100.0%

Scanning & Reconnaissance Module

Identify and use the proper tools to gain intelligence about a target including its services and potential vulnerabilities.

7 TH PLACE OUT OF 922
NATIONAL RANK

7 TH PLACE OUT OF 116
GOLD BRACKET RANK

305 POINTS OUT OF 305
PERFORMANCE SCORE

100.0% ACCURACY
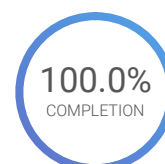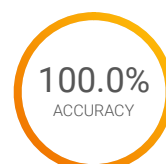
100.0% COMPLETION

100th
National Percentile

94th
Gold Bracket Percentile

Averages
National: 78.4
Gold Bracket: 245.0

National: 29.9%
Gold Bracket: 72.7%

National: 27.4%
Gold Bracket: 81.5%

UDP (Easy)	100 POINTS OUT OF 100	100.0% ACCURACY	COMPLETION:	100.0%
Blog (Medium)	100 POINTS OUT OF 100	100.0% ACCURACY	COMPLETION:	100.0%
Scanned (Hard)	105 POINTS OUT OF 105	100.0% ACCURACY	COMPLETION:	100.0%

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Web Application Exploitation Module

Identify actionable exploits and vulnerabilities and use them to bypass the security measures in online services.

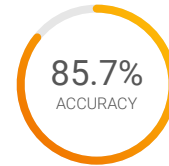**82** ND PLACE
OUT OF 922
NATIONAL RANK

64 TH PLACE
OUT OF 116
GOLD BRACKET RANK

130 POINTS
OUT OF 285
PERFORMANCE SCORE

85.7%
ACCURACY

60.0%
COMPLETION

92nd
National Percentile

45th
Gold Bracket Percentile

Averages
National: 35.9
Gold Bracket: 139.1

National: 32.6%
Gold Bracket: 83.3%

National: 16.8%
Gold Bracket: 57.0%

Clicker (Easy)	**100** POINTS OUT OF 100	**100.0%** ACCURACY	COMPLETION:	100.0%

Construction (Medium)	**20** POINTS OUT OF 105	**66.7%** ACCURACY	COMPLETION:	50.0%

Hire-a-Hacker (Hard)	**10** POINTS OUT OF 80	**100.0%** ACCURACY	COMPLETION:	33.3%