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CYBER SKYLINE

The National Cyber League
A Community Where Cybersecurity Is a Passion

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NCL Fall 2024 Team Game Scouting Report

Dear Gokul Sathiyamurthy (Team "X101 | Karan | Gokul"),

Thank you for participating in the National Cyber League (NCL) Fall 2024 Season! Our goal is to prepare the next generation of cybersecurity professionals, and your participation is helping achieve that goal.

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 in preparation for further learning, industry certifications, and career readiness. The NCL scenario-based challenges were designed around performance-based exam objectives of CompTIA certifications and are aligned to the National Initiative for Cybersecurity Education (NICE) Cybersecurity Workforce Framework published by the National Institute of Standards and Technology (NIST).

As you look to a future career in cybersecurity, we hope you find this report to be valuable in both validating skills and identifying areas for improvement across the nine NCL skills categories. You can use this NCL Scouting Report to:
- Validate your skills to employers in any job application or professional portfolio;
- Show case your achievements and strengths by including the Score Card view of your performance as part of your résumé or simply sharing the validation link so that others may view the detailed version of this report.

The NCL Fall 2024 Season had 9,260 students/players and 573 faculty/coaches from more than 540 two- and four-year schools & 230 high schools across all 50 U.S. states registered to play. The Individual Game Capture the Flag (CTF) event took place from October 25 through October 27. The Team Game CTF event took place from November 8 through November 10. The games were conducted in real-time for students across the country.

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

To validate this report, please access: cyberskyline.com/report/H652UQWJB3YN

Congratulations for your participation in the NCL Fall 2024 Team Game! We hope you will continue to develop your knowledge and skills and make meaningful contributions as part of the Information Security workforce!
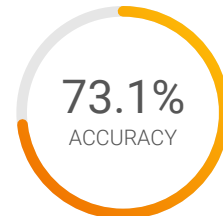
Dr. David Zeichick
NCL Commissioner

NATIONAL CYBER LEAGUE SCORE CARD

NCL FALL 2024 TEAM GAME

NATIONAL RANK
**351ST PLACE
OUT OF 4893**

PERCENTILE
93RD

YOUR TOP CATEGORIES

| OPEN SOURCE INTELLIGENCE 98TH PERCENTILE | SCANNING & RECONNAISSANCE 96TH PERCENTILE | ENUMERATION & EXPLOITATION 95TH PERCENTILE |

73.1% ACCURACY

Average: 63.2%

cyberskyline.com/report
ID: H652UQWJB3YN

Learn more at nationalcyberleague.org

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NCL Fall 2024 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.

351 ST PLACE OUT OF **4893**
NATIONAL RANK

93 rd National Percentile

1770 POINTS OUT OF 3100
PERFORMANCE SCORE
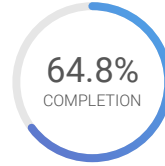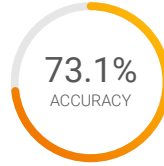
Average: 1153.1 Points

73.1% ACCURACY

Average: 63.2%

64.8% COMPLETION

Average: 44.6%

Cryptography
135 POINTS OUT OF 310   **43.8%** ACCURACY   COMPLETION: **63.6%**

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

Enumeration & Exploitation
190 POINTS OUT OF 300   **58.3%** ACCURACY   COMPLETION: **77.8%**

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

Forensics
100 POINTS OUT OF 400   **100.0%** ACCURACY   COMPLETION: **9.1%**

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

Log Analysis
215 POINTS OUT OF 350   **81.3%** ACCURACY   COMPLETION: **68.4%**

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

Network Traffic Analysis
200 POINTS OUT OF 300   **80.0%** ACCURACY   COMPLETION: **88.9%**

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

Open Source Intelligence
390 POINTS OUT OF 390   **91.3%** ACCURACY   COMPLETION: **100.0%**

Utilize publicly available information such as search engines, public repositories, social media, and more to gain in-depth knowledge on a topic or target.

Password Cracking
120 POINTS OUT OF 340   **92.3%** ACCURACY   COMPLETION: **42.9%**

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

Scanning & Reconnaissance
220 POINTS OUT OF 310   **61.5%** ACCURACY   COMPLETION: **80.0%**

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

Web Application Exploitation
100 POINTS OUT OF 300   **33.3%** ACCURACY   COMPLETION: **33.3%**

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

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

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Cryptography Module

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

319 TH PLACE
OUT OF **4893**
NATIONAL RANK

94th National Percentile

135 POINTS OUT OF 310
PERFORMANCE SCORE
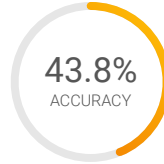
Average: 115.8 Points

43.8% ACCURACY

Average: 46.9%

63.6% COMPLETION

Average: 47.1%

Bases (Easy)

30 POINTS OUT OF 45   **42.9%** ACCURACY   COMPLETION: **75.0%**

Decode messages that have been encoded one or more times using different number bases.

Shady Shapes (Easy)

50 POINTS OUT OF 50   **100.0%** ACCURACY   COMPLETION: **100.0%**

Decode a morse code message encoded using shapes for dots and dashes.

Jefferson (Easy)

55 POINTS OUT OF 60   **33.3%** ACCURACY   COMPLETION: **100.0%**

Find and use the correct Jefferson cipher wheel to decode a message.

Secure Flag Share (Medium)

0 POINTS OUT OF 80   **50.0%** ACCURACY   COMPLETION: **33.3%**

Perform a known plaintext attack on an XOR-encrypted message.

Scheming (Hard)

0 POINTS OUT OF 75   **0.0%** ACCURACY   COMPLETION: **0.0%**

Perform a known plaintext attack on a homophonic cipher.

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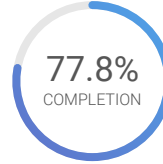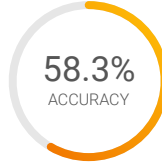gokul.sathiyamurthy@pace.edu

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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.

282 ND PLACE OUT OF **4893**
NATIONAL RANK

95th National Percentile

190 POINTS OUT OF 300
PERFORMANCE SCORE

Average: 109.7 Points

58.3% ACCURACY

Average: 57.1%

77.8% COMPLETION

Average: 45.4%

Break-Fast (Easy)
100 POINTS OUT OF 100 — **100.0%** ACCURACY — COMPLETION: **100.0%**

Analyze a Ruby script and bypass its insecure implementation of AES and XOR cryptography.

Trojan (Medium)
80 POINTS OUT OF 100 — **66.7%** ACCURACY — COMPLETION: **80.0%**

Decompile and explore a Powershell file that has been compiled to a Windows executable file.

Industry Guidelines (Hard)
10 POINTS OUT OF 100 — **25.0%** ACCURACY — COMPLETION: **50.0%**
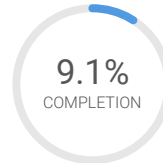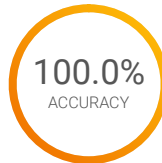
Find a vulnerability in a custom architecture VM and exploit it.

Forensics Module

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

441 ST PLACE OUT OF **4893**
NATIONAL RANK

91st National Percentile

100 POINTS OUT OF 400
PERFORMANCE SCORE

Average: 204.0 Points

100.0% ACCURACY

Average: 62.1%

9.1% COMPLETION

Average: 44.5%

Registry (Easy)
0 POINTS OUT OF 100 — **0.0%** ACCURACY — COMPLETION: **0.0%**

Explore a Windows registry file to identify system information.

Jammed (Medium)
100 POINTS OUT OF 200 — **100.0%** ACCURACY — COMPLETION: **50.0%**

Fixed a corrupted header in a zip file to extract lost information.

Dump (Hard)
0 POINTS OUT OF 100 — **0.0%** ACCURACY — COMPLETION: **0.0%**

Explore a memory dump using analysis tools like Volatility to extract information from running programs.

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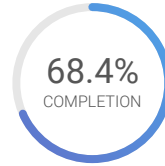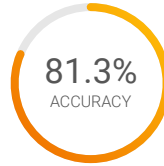gokul.sathiyamurthy@pace.edu

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.

542 ND PLACE OUT OF **4893**
NATIONAL RANK

89th National Percentile

215 POINTS OUT OF **350**
PERFORMANCE SCORE

Average: 236.6 Points

81.3% ACCURACY

Average: 60.5%

68.4% COMPLETION

Average: 69.7%

Web (Easy)
110 POINTS OUT OF 110 | 100.0% ACCURACY | COMPLETION: 100.0%

Analyze an access log from a WordPress site to identify trends.

Activity (Medium)
70 POINTS OUT OF 120 | 66.7% ACCURACY | COMPLETION: 66.7%

Analyze a log of JSON data and identify trends of device activity on a network.

Monitor (Hard)
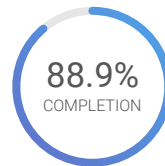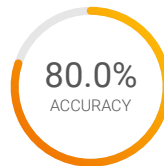35 POINTS OUT OF 120 | 66.7% ACCURACY | COMPLETION: 33.3%

Analyze a Sysmon log to calculate statistics and network trends.

Network Traffic Analysis Module

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

289 TH PLACE OUT OF **4893**
NATIONAL RANK

95th National Percentile

200 POINTS OUT OF **300**
PERFORMANCE SCORE

Average: 176.2 Points

80.0% ACCURACY

Average: 63.4%

88.9% COMPLETION

Average: 75.5%

Stream'n (Easy)
100 POINTS OUT OF 100 | 83.3% ACCURACY | COMPLETION: 100.0%

Extract a transmitted file from a packet capture.

Net (Medium)
100 POINTS OUT OF 100 | 75.0% ACCURACY | COMPLETION: 100.0%

Analyze a packet capture to inspect the behavior of a load balancer.

Testing (Hard)
0 POINTS OUT OF 100 | 0.0% ACCURACY | COMPLETION: 0.0%

Extract data that was exfiltrated from a network using the reserved bits of a TCP header.

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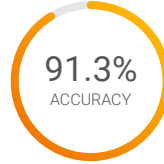gokul.sathiyamurthy@pace.edu

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.

126 TH PLACE OUT OF **4893**
NATIONAL RANK

98th National Percentile

390 POINTS OUT OF 390
PERFORMANCE SCORE

Average: 266.8 Points

91.3% ACCURACY

Average: 75.9%

100.0% COMPLETION

Average: 80.9%

Rules of Conduct (Easy)
25 POINTS OUT OF 25   **100.0%** ACCURACY   COMPLETION: **100.0%**

Introductory challenge on acceptable conduct during NCL.

Van Life (Easy)
125 POINTS OUT OF 125   **81.8%** ACCURACY   COMPLETION: **100.0%**

Apply OSINT techniques to identify and track the locations of vehicles using VINs.

Airport (Medium)
70 POINTS OUT OF 70   **100.0%** ACCURACY   COMPLETION: **100.0%**

Determine the geolocation of an image solely by analyzing visual clues, without relying on metadata.

Nostalgia (Medium)
70 POINTS OUT OF 70   **100.0%** ACCURACY   COMPLETION: **100.0%**

Conduct reconnaissance on a website by performing a WHOIS lookup.

Insider Threat (Hard)
100 POINTS OUT OF 100   **100.0%** ACCURACY   COMPLETION: **100.0%**

Conduct a reverse image search to find sources or profiles that match an AI-generated person.

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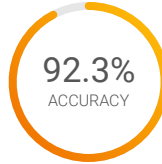
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Password Cracking Module

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

321 ST PLACE OUT OF **4893**
NATIONAL RANK

94th National Percentile

120 POINTS OUT OF 340
PERFORMANCE SCORE

Average: 94.4 Points

92.3% ACCURACY

Average: 82.0%

42.9% COMPLETION

Average: 34.5%

Hashing (Easy)
15 POINTS OUT OF 15   100.0% ACCURACY   COMPLETION: 100.0%

Generate password hashes for MD4, Whirlpool, and SHA512.

Common Passwords (Easy)
10 POINTS OUT OF 30   100.0% ACCURACY   COMPLETION: 33.3%

Crack MD5 password hashes for common passwords .

Windows (Easy)
30 POINTS OUT OF 30   75.0% ACCURACY   COMPLETION: 100.0%

Crack Windows NTLM password hashes that may not be found in common rainbow tables.

Combination (Medium)
0 POINTS OUT OF 45   0.0% ACCURACY   COMPLETION: 0.0%

Build a wordlist or pattern config to crack password hashes of a known pattern.

PDF (Medium)
50 POINTS OUT OF 50   100.0% ACCURACY   COMPLETION: 100.0%

Crack the insecure password for a protected PDF file.

Wordlist (Hard)
15 POINTS OUT OF 65   100.0% ACCURACY   COMPLETION: 50.0%

Build a wordlist to crack passwords not found in common wordlists.

Prog Rock (Hard)
0 POINTS OUT OF 105   0.0% ACCURACY   COMPLETION: 0.0%

Create a custom wordlist to crack passwords by creating permutations based on password complexity requirements.
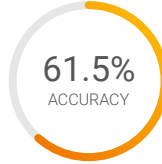
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Scanning & Reconnaissance Module

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

228 TH PLACE OUT OF **4893**
NATIONAL RANK

96th National Percentile

220 POINTS OUT OF 310
PERFORMANCE SCORE

Average: 194.4 Points

61.5% ACCURACY

Average: 53.1%

80.0% COMPLETION

Average: 70.9%

Storytime (Easy)
100 POINTS OUT OF 100 | **50.0%** ACCURACY | COMPLETION: 100.0%

Perform a scan on an FTP server and access shared files.

Vuln Recon (Medium)
110 POINTS OUT OF 110 | **100.0%** ACCURACY | COMPLETION: 100.0%

Scan a system and identify vulnerable services and their associated CVEs.

Feed (Hard)
10 POINTS OUT OF 100 | **33.3%** ACCURACY | COMPLETION: 33.3%
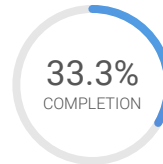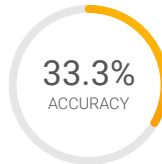
Perform a remote scan of an insecurely configured MQTT server and access its sensitive information.

Web Application Exploitation Module

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

422 ND PLACE OUT OF **4893**
NATIONAL RANK

92nd National Percentile

100 POINTS OUT OF 300
PERFORMANCE SCORE

Average: 100.9 Points

33.3% ACCURACY

Average: 74.5%

33.3% COMPLETION

Average: 33.6%

Service Up (Easy)
100 POINTS OUT OF 100 | **100.0%** ACCURACY | COMPLETION: 100.0%

Bypass user-agent filtering in a web application to leek sensitive information.

Flag Dispenser (Medium)
0 POINTS OUT OF 100 | **0.0%** ACCURACY | COMPLETION: 0.0%

Exploit a flaw with a custom session checksum.

Book (Hard)
0 POINTS OUT OF 100 | **0.0%** ACCURACY | COMPLETION: 0.0%

Perform an XML injection attack and bypass input sanitization on a web application.

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