

# CS 370

# Introduction to Security

Codebreaker Prep



**Oregon State**  
University

# NSA Codebreaker Challenge

- Annual Cybersecurity competition hosted by NSA
  - <https://nsa-codebreaker.org/home>



# Challenge Comes with a Fake But Realistic Scenario

- Assist FBI in order to investigate a ransomware incident

## Background

*DISCLAIMER - The following is a FICTITIOUS story meant for providing realistic context for the Codebreaker Challenge and is not tied in any way to actual events.*

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NSA has two main jobs: collecting foreign signals intelligence, and providing cybersecurity for the US government. As part of the latter mission, NSA works with partner agencies to provide technical assistance where our skills can be useful. In this scenario, you play the role of an NSA employee providing technical assistance to the FBI in order to investigate a ransomware incident.

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Note: All IP addresses and identifiers have been anonymized. Any resemblance to any real person is purely coincidental.

# Team Effort

- Oregon State University
  - 1<sup>st</sup> place (2018), 3<sup>rd</sup> place (2019, 2020, 2021)
  - What about in 2022???

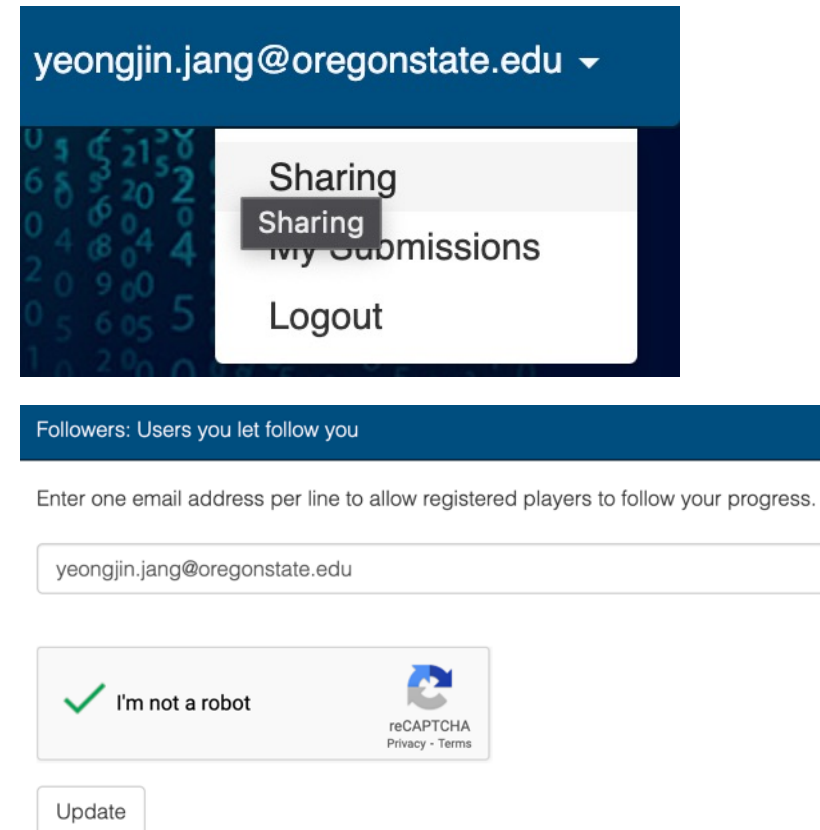
Overall Progress												
Show <input type="text" value="10"/> entries		Search: <input type="text"/>										
Rank ▲	School	Task 0 ▼	Task A1 ▼	Task A2 ▼	Task B1 ▼	Task B2 ▼	Task 5 ▼	Task 6 ▼	Task 7 ▼	Task 8 ▼	Task 9 ▼	Score ▼
1	Georgia Institute of Technology	170	139	99	128	91	30	30	27	14	6	101,500.00
2	University of California, Santa Cruz	58	44	27	42	18	12	11	10	8	6	60,448.00
3	Oregon State University	106	68	41	65	36	11	10	8	6	6	58,076.00

# What We Include?

- Task 0, Task A1, Task A2, Task B1, Task B2
  - Each will contribute as 4% towards your total grade points
- We cannot directly teach you on how you solve codebreaker challenges
- This slide/video demonstrates different but similar challenges that you can apply the technique learned from the challenge to NSA Codebreaker

# Sharing Score

- Please register yourself to the NSA Codebreaker Challenge
  - <https://nsa-codebreaker.org/home>
- After login, go to Sharing page
  - <https://nsa-codebreaker.org/sharing>
- Add me as your follower
  - [yeongjin.jang@oregonstate.edu](mailto:yeongjin.jang@oregonstate.edu)



The screenshot shows the user interface of the NSA Codebreaker Challenge. At the top, the user is logged in as 'yeongjin.jang@oregonstate.edu'. A dropdown menu is open, showing options: 'Sharing' (highlighted), 'Sharing', 'My Submissions', and 'Logout'. Below this, there is a section titled 'Followers: Users you let follow you'. It contains a text input field with the email 'yeongjin.jang@oregonstate.edu'. Below the input field is a reCAPTCHA widget with a green checkmark and the text 'I'm not a robot'. To the right of the reCAPTCHA is a link for 'reCAPTCHA Privacy - Terms'. At the bottom of the form is an 'Update' button.

# Tutorials

- C1 – Log analysis
- C2 – Packet analysis
- D1 – Web application analysis
- D2 – Web vulnerability analysis

# Tutorials

- C1 – Log analysis -> **Solve A1!**
- C2 – Packet analysis -> **Solve A2!**
- D1 – Web application analysis -> **Solve B1!**
- D2 – Web vulnerability analysis -> **Solve B2!**



# Due Date

- Please solve all tutorials and the NSA codebreaker Task 0, A1, A2, B1, and B2 before 12/9 11:59 pm
- There will be no later submission
  - I need to get your grade during 12/10~12/12