CS1800: Section Presentation Topics

The rubric for the section presentations is on the website. Students may elect to choose their own presentation topic relevant to their week’s material with TA approval.

Section 1: Week of February 5

Intro, discuss readings, questions, expectations.

Section 2: Week of February 12

1. Pick a recent hardware or software vulnerability (last 5 years). Discuss the vulnerability to the best of your ability and how it was addressed/fixed. Explain how the public was notified, and any ramifications the state/company faced. Examples include: OSX root login issue, Intel Speculative Chip malfunction, and CIA ‘Weeping Angel’ smart TV hack.

2. Pick a country or nation and discuss its current political position indepthly. Take a stance on the nation’s position and discuss how it affects international cyber relations.

Section 3: Week of February 26

1. Pick a recent cyber attack (last 5 years). Attribute it. Form an argument about a cyber intrusion and who may have perpetrated it. Explain your reasoning. Also, feel free to discuss attribution generally.

2. Pick a contemporary issue that has grown or is supported by the “deep web”. Explain the relationship between the “deep web” and this issue. Did the “deep web” enable this issue? Do you think the “deep web” is responsible for this issue?

Section 4: Week of March 5

1. Pick a recent cyber attack (last 10 years). Discuss the hack, explaining the exploit used and how it was counter-acted. What was the fallout from the attack? Was the attack or the response successful? What could have been done to prevent the attack, or what should be done to prevent it in the future? Example attacks include: Stuxnet, Duqu, Shamoon.
2. Discuss the potential for conflict between two powers. Consider both technical aspects of the respective country’s programs, as well as political and popular pressure. Do you think there is potential conflict in the near future? Examples may include: US v. ISIS, Israel v. Iran, US v. Russia, US v. North Korea, and many more.

3. Choose an encryption scheme, such as RSA encryption; discuss how it is implemented and how it is used in today. Are there any instances of it being broken? Popular encryption schemes are: RSA, elliptoidal, PGP.

Section 5: Week of March 12

1. Pick a recent data breach (last 5 years). Discuss the event itself, providing a clear explanation of data lost (as best you can). Discuss the economic value/consequences of the breach for the company and consumer. Do you consider the data-holder responsible for inadequate security measures?

2. Bitcoin (and other cryptocurrencies) are revolutionary in many ways. Do you believe that it is a reliable and safe way to exchange money? Will it last? Present an argument around one of these currencies.

3. Blockchain is a fundamental part of Bitcoin. What other applications currently exist for blockchain technology, and what do you think it will be used for in the future?

Section 6: Week of March 19

1. Discuss how international cyber crime or incidents have been handled. What methods are used to address these conflicts? How have they changed over time? Consider a current cyber event (last 5 years) that involved multiple nations and analyze how it was handled. Examples include: Microsoft Ireland Supreme Court Case, Wannacry Ransomware, and Swift Banking Hack.

2. US oversight of ICANN, Internet Corporation for Assigned Names and Numbers, was recently released to the international community by the Obama administration in September of 2016. What role does ICANN play in regulating and governing the internet? The IETF, Internet Engineering Task Force, is another agency that plays a major role in regulating the internet. Discuss how these agencies relate, how they should be governed, and what steps can be taken to further secure the internet.
Section 7: Week of April 2

1. Discuss the role that large social media websites like Twitter and Facebook play in social and political discourse. How have the invention and growth of these communities affected the way political campaigns and public opinion is shaped?

2. Propose a new cyber norm. Discuss how the norm would help the international community. Discuss the pros/cons of it and how it might be implemented. What obstacles would your norm face?

Section 8: Week of April 9

1. Pick a recent example of a major cyber malpractice by a large company. Discuss the event, the repercussions, and the publication of it. Examples include Volkswagen Emissions, Uber (fake Lyft rides and other "unethical" practices), and Comcast billing/business practices (see FCC 2.3 million fine).

2. AI has been proven to be a very powerful and useful tool, however there are growing concerns about its ethical conscience. Discuss the potential social implications of AI, and how they could be dealt with. For example, Apple Face ID and other image-processing applications have been found to learn and amplify gender stereotypes.

Section 9: Week of April 16

1. Choose a cyber attack or class of cyber attacks that is no longer as effective. What defense was created to stop it, and how does it work? Example attacks that are less effective include buffer overflows, and SQL injection.

2. Speculate and discuss what you consider to be the next big threat to international (or US) cyber security. How might you address this issue or prevent it? Potential examples include: Anonymous hacker group, ISIS, North Korea, Iran, Russia, and the United States.