CS 88S: SAFETY IN THE CLOUD
INTRODUCTION TO CYBERSECURITY

Course Description

With the advancement of accessible technology such as the internet and smartphones, more and more people (especially the younger generation) are accustomed to establishing an online presence. Our privacy has always been an important aspect of our lives in this world, but not as many people understand how *online privacy* work. Our emails, electronic purchases, files, and sensitive information can be easily taken advantage of if we are not educated in protecting ourselves online.

Frank Chen

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Location: TBA

Time: TBA

Faculty Mentor:

Peter Reiher

Office Hours: TBA

Course Website:

`http://kfrankc.me/cs88s`

Learning Objectives

Students will:

- Explore cybersecurity and its cultural influences
- Learn the vulnerabilities of their everyday online services
- Practice effective methods to protect themselves online
- Analyze how their online data is used to generate industry revenue
- Understand the role cybersecurity plays in our country
- Submit final project/reflection about their views on cybersecurity and internet safety after finishing the class
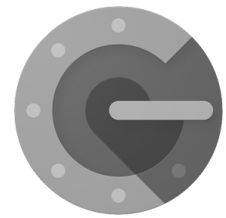
Google Authenticator, an app that provides two-factor authentication (2FA) to your online accounts. 2FA is one of the many topics we will cover in this class.

Grading Scheme

This is a 1-unit P/NP seminar that meets 1 hour per week. Students are expected to attend each seminar, but given one absence; additional missed classes are a case-by-case basis.

Pass: ≥ 73 % | No-Pass: < 72 %

45% - 9 homeworks, each 5 %

25 % - final reflection

30 % - participation

***I reserve the right to change this syllabus and the associated work at any point during the quarter.

Course Expectations

Students are expected to participate and maintain classroom discussions. In addition, students are encouraged to create and ask questions, as well as promote a positive, healthy atmosphere for discussion of ideas. Brief articles or videos will be given to students to familiarize themselves with each week's topic before class. Students are not necessarily expected to fully understand the reading, but will be expected to get a general introduction.

Schedule

Week 1: Introduction & Motivations for the Class

We begin this course by exploring the impact cybersecurity has on our society, overviewing the topics we will cover throughout the quarter, and introducing the paradigms of cybersecurity: Confidentiality, Integrity, and Accessibility.

Week 2: Hollywood Hacking vs. Real Hacking

In recent months, there have been some accurate portrayals of cybersecurity and hacking, but we'll revisit some of the more embarrassing examples, and discuss why this field of study is often dramatized or stereotyped.

Week 3: Phishing, Social Engineering, Identity Theft

We start our study of various vulnerabilities in our online services at phishing, social engineering, and identity theft. We'll discuss why these attacks happen, their prevalence in our everyday lives, and how to watch out for them.

Week 4: Passwords, Authentication, & Password Managers

What does it mean to have a strong password? How long does it take to crack an easy password? How does password authentication work in a service? What are password managers? These are some of the questions we hope to answer this week.

Week 5: Web Browsing, Encryptions, & VPNs

How can we tell if a website is safe to access? What is a Virtual Private Network (VPN), and how does it allow a user to have privacy when browsing on the Internet?

Week 6: Protecting Yourself: apps, methods, practices

We'll explore 2FA, encrypted emails, encrypted SMS, encrypted phone calls, and various apps and services that you can use to protect your privacy online and strengthen your protection against attacks.

Week 7: Your data & how it's used to make money

Ever wonder how a website such as *Amazon.com* recommends items that you may like? We'll explore the ethical dilemmas that sometimes results from technology companies using your personal data for profit.

Week 8: Cybersecurity, Privacy, & US Government

Remember Apple vs. FBI a year ago? We'll explore what cybersecurity means in a government context, and how that sometimes clashes with the cybersecurity goals of the tech industry.

Week 9: TBA

Week 10: Future Topics in Cybersecurity

Will we be using passwords for the rest of our lives? What other kinds of authentication systems are out there? How can we all contribute to a world more educated in cybersecurity?

Campus Resources

CAE — Center for Accessible Education

The Center for Accessible Education is able to provide adequate accommodation for students with suspected and/or documented disabilities. Accommodation requests can be made at their office A255 Murphy Hall or over the phone 310-825-1501

AAP — Academic Advancement Program

AAP students are eligible to receive free peer tutoring with appointments made through my.ucla.edu. To determine your AAP eligibility status, contact the AAP New Student Programs office at `aapnewstudents@college.ucla.edu`

LGBT Campus Resource Center

The center on campus provides social, educational, and support programs and services to all LGBTQIA, questioning, or ally students. They are an excellent resource that maintain a welcoming environment for all. If you're interested they are located in the Student Activities Center (facing the bruin bear) or contact them electronically via their website `lgbt.ucla.edu` or email `lgbt@ucla.edu`.

CAPS — Counseling & Psychological Services

This is a multidisciplinary student mental health center for the UCLA campus. CAPS offers an array of free services including individual counseling. If you suspect you are experiencing mental health problems or just need to talk, you can make an appointment at John Wooden Center West (facing Drake Stadium, second floor), over the phone 310-825-0768, or their website `counseling.ucla.edu`.

Myself

I may be your instructor, but I am also your peer. My goal is to promote an educational and supportive environment and as such, I am always available as a resource if needed.

Plagiarism

Just don't do it, because you will be given a No Pass (or much worse).

For UCLA's paragraph on academic integrity, visit

`http://www.deanofstudents.ucla.edu/Academic-Integrity`