Course Plan

CS463/ECE424

University of Illinois

Administration

- Instructor: **Varun Chandrasekaran** (varunc@illinois.edu)
  - Department of Electrical & Computer Engineering
  - Office: Room 463😁, Coordinated Science Lab
- Class location: ECEB 2013 (Tu/Thu: 11:30 AM – 12:50 PM)
- (Also) Class platform: Coursera (https://www.coursera.org/)
- Course website: https://chandrasekaran-group.github.io/courses/cs463/home/
  - **Please bookmark it!**
  - Slides will be posted on website at the end of each week
- Campuswire: Discussion platform
  - **Email me if you don't have access!**

TAs This Term

- Sujithra Rajan

- Grad CS Student
- Programming, Chess and Sudoku !!
- rajan11@illinois.edu

- Daniel Hsu

- Grad CS Student
- Passionate about computer security, cryptography, and blockchain
- chhsu5@illinois.edu

Studying Security at University of Illinois

- CS461/ECE422 Computer Security – System/Network Track
- CS463/ECE424 Computer Security – Data Track   This Course!
- CS563/ECE524 Advanced Computer Security
- CS498/ECE498 Applied Cryptography
- CS498 Cyber Dystopia
- Other special topics (498/598)
- See https://iti.illinois.edu/education/course-roadmaps/security for links and updates

Topics from CS461/ECE422 (Sys/Net Track)

- Mindset and Ethics

- Crypto

- Software Security

- Web Security

- OS Security

- Network Security

- …

This Course (Data Track)

- Key areas related to data-centric security and privacy

  - ✓ Trusted computing
  - ✓ Privacy
  - ✓ Machine learning security
  - ✓ Advertising
  - ✓ Advanced crypto
  - ✓ Smartphones and apps
  - ✓ Bitcoin

  - ✓ Automobile security
  - ✓ Cybercrime
  - ✓ Code stylometry
  - ✓ Misinformation
  - ✓ And More

Summary

- This is a course for advanced undergraduates and graduate students wanting to develop greater **depth** and **breadth** in security.

- It assumes a basic knowledge in programming and statistics

- This semester: expect the ability to program in **Python, Java and C/C++.**

Class Format

- Lecture videos
  - 50-60 minutes for each lecture/presentation
  - Two lectures per week

- **No online quiz**
  - Difference in comparison to Spring'24 semester

- Expected to participate in **online discussion**

- Office hours for discussion (instructor + TA)
  - 2 each week; one in-person and one online

Participation

- Ask questions online

- Answer questions online

- Attend office hours

- Participate in online discussions

- **5% of total grade!!!**

MPs

- Five in total

- **Individual effort only**

- Will be announced throughout the semester

- Releasing via GitHub
  - **MP1 released today!**

- Late submission policy on Campuswire

- **50% of total grade (10% each MP)**

Exams

Midterm (10% of final grade)

- It will ask questions about the lectures from the first half of the lectures

- It will test attentiveness, recollection, and reasoning ability in subject matter

- **Will (likely) be MCQ + take-home**

Final (35% of final grade)

- Final week
- It will ask questions about all lectures.
  - 25% from first half
  - 75% from second half
- It will test attentiveness, recollection, and reasoning ability in subject matter
- **In-person (date to follow!)**
  - **Online students will require additional proctoring (details to follow!)**

Course Syllabus

- Available on course website and Coursera

- Lectures are based on research papers (classics + recent research)

- Different from "typical" undergraduate courses
  - No required textbook; we mostly read papers
  - Learn to think like a researcher
  - **MPs are related to lectures, but they are not necessarily designed to practice what you already know**
  - MPs are more of opportunities to **learn something new**

Thank You