CSC 6991 Topics in Computer Security

Fengwei Zhang
Who Am I?

• Fengwei Zhang
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• Course information
  – Course website: http://www.cs.wayne.edu/fengwei/17fa-csc6991
  – Office Hours: M, W 11:15AM – 12:15PM (After the class)
Why Study Security?
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It’s cool to be a hacker...
It’s a hot topic and everybody talks about it...
It’s useful for finding a job...
Course Overview

• Designed for students interested in computer security research and helps them get started

• Covers state-of-the-art research topics in computer security

• WSU needs security researchers
Topics in Security Research

• Systems security
  – Malware Detection & Memory Introspection
  – Transportation Security
  – Malware Analysis
  – Isolated Execution Environments
  – Memory Forensics
  – Car hacking
  – DMA attacks
Topics in Security Research

- Network security
  - DDoS Attack
  - Web Security
  - Intrusion Detection Systems (IDS)

- Mobile security
  - Android Security
  - iOS Security
  - TrustZone on ARM
  - IoT Security

- More on the course website
Prerequisites

• CSC 4290 Introduction to Computer Networking

• CSC4420 Computer Operating Systems

• CSC5270 Computer Systems Security
Course Format

• Reading research papers
  – Read one paper per class
  – Check the course webpage for the assigned paper
  – Send the paper summary to the mailing-list before the class
  – Not necessary assigned, email me if you want to read other security papers
Course Format

• Writing paper summaries
  – Write about 100 words
  – Send it to the class mailing-list before class
  – Strengths and weaknesses (optional)
Course Format

• Presenting papers
  – Pick three papers/topics to present
  – Email your choices to the mailing-list (do it ASAP to reserve your favorite papers)
  – Use slides and prepare to talk for 40 minutes
  – Discuss the papers in the presentation
Course Term Project

• A mini research project
  – building a new system
  – improving a existing technique
  – performing a large case study
• Project proposals due on Oct 03
  – 1-2 pages
• Project presentations on Dec 5 & 10
• Project final reports due on Dec 10
Grading Policy

- Class participation: 10%
  - Paper discussion Q&A
- Paper reviews: 20%
- Class presentations: 30%
- Term project: 40%
Academic Integrity

• Please read the University's Academic Integrity Page
  – http://doso.wayne.edu/academic-integrity.html

• WSU Student Code of Conduct.
  – http://doso.wayne.edu/assets/codeofconduct.pdf
Student Disabilities Services

• If you have a documented disability that requires accommodations, you will need to register with Student Disability Services for coordination of your academic accommodations.
• The Student Disability Services (SDS) office is located in the Adamany Undergraduate Library. The SDS telephone number is 313-577-1851 or 313-202-4216 (Videophone use only).
Additional Resources

• How to Read an Engineering Research Paper. William G. Griswold. [Link]
• Writing Technical Papers in CS/EE. Henning Schulzrinne. [Link]
• The Elements of Style. Strunk and White. [Link]
Homework 0

• Subscribe to CSC 6991 mailing-list today
  – https://lists.wayne.edu/cgi-bin/wa?SUBED1=csc6991&A=1
  – Or https://lists.wayne.edu

• Send an email to the list to introduce yourself by next class

• Take a look at the topics/papers and email your choices in next two weeks