

CSC 6991 Topics in Computer Security

Fengwei Zhang

Who Am I?

- Fengwei Zhang
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 - Website: <http://fengwei.me>
- 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 an 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