BRINGING Different Disciplines and Competitions in your Classroom

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About us

- Cybersecurity and Artificial Intelligence research

- Designed and launched new BS and MS in Cybersecurity

- Mentored over 50 students in past 5 years

- Coach students in competitions and three student clubs
  - WiCyS, 7968, Don't Panic!

- Director of interdisciplinary Center for Cybersecurity

About Loyola

- Loyola University Chicago designated since June 2020

- Curriculum:

- Intro to Programming, Linux, Computer Architecture

- Intro to Security, Network Security, Wireless Security, Vulnerabilities, Forensics

- Computer Networks, Operating Systems

- Cyber Crime

- Practicum: competitions, research, broadening participation, or research

- Computer Crime and Forensics Minor
  - Criminal Justice & Criminology and Computer Science

Interdisciplinary

- Computer Science, Cybersecurity, Computer Engineering, Electrical Engineering, Software Engineering, Information Technology
- Psychology, Criminal Justice & Criminology, Sociology, Political Science, Business

Why?

- Cybersecurity is not technical "hacking" only

- Diversity of backgrounds (technical, non technical)

- Diversity of skills (writing, programming, speaking, outside the box, critical thinking)

- Work in a team

- Greater impact in education and research

- Possibility of more funding $$$

- Attract more diverse students

Competitions

- Collaborative
- Learning experience
- Experiential learning
- Hands-on skills
- Real-world scenario
- Access to resources that wouldn't be available
- Teamwork
- Develop soft skills like communications, time management
- Networking

Competitions

- National Cyber League (every semester)
  - "Easy"
  - Range of challenges
  - Can be done without a Virtual Machine

- Department of Energy Cyberforce competition (fall semester)
  - Report writing
  - Presentation
  - Anomalies (jeopardy-like)
  - Blue team

- Social Engineering competition

- NCAE Cyber Games
  - Blue team
  - Teamwork

- How to fund
  - Lab fees
  - Gifts/Donations

Center for Cybersecurity

- Took 6 years to get proper benefits

- Talk to faculty in other departments

- Try to find a common theme

- Propose some ideas for collaboration

- Start a dialogue about incorporating other classes in your curriculum

- Find a core group of students to help with cybersecurity clubs and competitions

- Worth it for yourself and for your students!

THANK YOU!

Questions?

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