

# Promoting Cybersecurity Competitions at Nova Southeastern University (NSU)

Wei Li, Ph.D.,

College of Computing and Engineering, Nova Southeastern University, Fort Lauderdale, FL

2019 CAE IN CYBERSECURITY SYMPOSIUM

November 22, 2019, Phoenix, AZ

# Outline

- National cybersecurity competitions currently being promoted
- Faculty support of cyber competitions
- Programs/Courses promotions of cyber competitions
- Outcomes/Benefits of cyber competitions
- Future steps

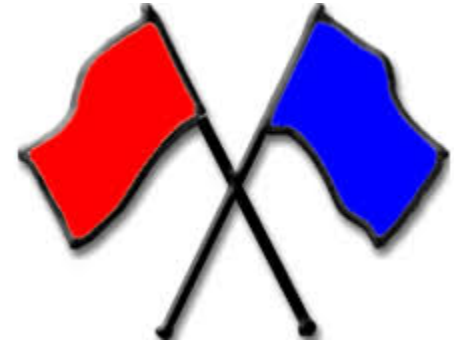
# CAE at NSU

- First designated as a CAE in March 2005
- Amongst the first in Florida
- Re-designated in 2009, and most recently in 2014 as a CAE-CD
- Located in NSU's main campus in Davie/Fort Lauderdale, FL
- Website: <https://infosec.nova.edu/>



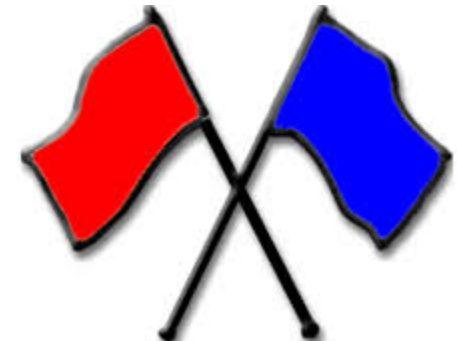
# Promotion of cybersecurity competitions

- National
- Regional
- Local
- Program



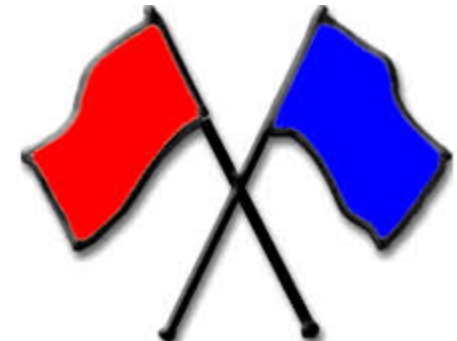
# National Competitions

- DEF CON
- NYU-CSAW (Cyber Security Awareness Week)
- US Cyber Challenge: Cyber Quests
- National Cyber League
- Facebook Capture the Flag Competition
- Department of Energy CyberForce Competition



# Regional/Local

- Regional
  - Southeast CPTC
- Local
  - Hackathon
  - Hack NSU
  - Cybersecurity month
  - Competitions built on curriculum





# Support from the government

## NSU's College of Engineering and Computing Presents TechTalk-Cyber Threatscape: Business E-mail Compromise



J. Richard "Rick" Kiper, Ph.D.  
Kiper@mysu.nova.edu

Dr. J. Richard "Rick" Kiper is a highly-decorated Special Agent, digital forensic examiner, and instructor working for the FBI since 1999. He has served as a senior manager, lead investigator, project manager, and liaison in a variety of overseas assignments including Assistant Legal Attaché to San Salvador. Along with four degrees in computer science and education, Dr. Kiper also holds seven Global Information Assurance Certifications in the field of cybersecurity and serves as an advanced instructor in the FBI's Instructor Development

**When:** Thursday, May 31 @ 5pm EST

**Location:** Nova Southeastern University - Main Campus

3301 College Ave, Ft. Lauderdale, FL— Carl DeSantis Building  
Room - TBD

According to the FBI's Internet Crime Complaint Center (IC3), Business E-mail Compromise (BEC) is one of the fastest growing and lucrative scams committed by online criminals today. The methods are simple, the risks are small, and the payoffs are huge. This presentation explores how BEC attackers target their victims, how they gain and maintain their victims' personas, and how they exploit the ability to impersonate their victims in order to rip off hundreds of thousands of dollars. Businesses worldwide are losing more than \$5 billion annually, with no signs of slowing down. Fortunately, there are steps we can take to substantially lower our risk.

# Support from the industry

## NSU's College of Engineering and Computing Presents TechTalk: The South Florida Technology Community - Insights Into Hiring at Local Companies



Alex Funkhouser  
President / Talent Agent  
SherlockTalent.com

Alex Funkhouser helped create SherlockTalent, opening up international recruitment call centers across the world to help companies around the globe. Funkhouser is a headlining speaker throughout South Florida and has moderated international forums such as the Staffing Industry Executive Forum. His companies have consulted with many top international companies, including local heavy weights Carnival Corp., Office Depot and Royal Caribbean Cruise Lines. From university to present, Funkhouser has consistently won awards for his entrepreneurial leanings, including "Entrepreneur of the Year, State of Missouri". He was awarded the "Beauty and the Beast" honor by the Cystic Fibrosis Foundation for contributions to the community and the foundation. He serves as Chairman of the STEM Advisory Board of Miami-Dade County Public Schools NAF Academies. Over the past decade, the board has facilitated thousands of high school student internships, funded by millions of dollars in grants. Mr. Funkhouser earned an International MBA from Nyenrode University, The Netherlands School of Business, and a Bachelor of Science in Business Administration from Washington University.

When: Thursday, November 1 @ 6pm EST

Location: Nova Southeastern University - Main Campus

3301 College Ave, Ft. Lauderdale, FL— Carl DeSantis Building

Room – 3034 or Online via GoToTraining – see below

The vibrancy of the South Florida technology community continues to grow. This TechTalk session will provide insights into hiring at our local companies, specific technology job opportunities, as well as trends in IT and Cybersecurity hiring demand. In this session, we will also discuss the increasing importance of technology user groups and industry associations in fulfilling the requirement of life-long learning in the technology industry. We will also discuss how user groups and associations connect you to career growth opportunities. This session welcomes all NSU students and alumni who are interested in hearing about the exciting IT and cybersecurity careers in South Florida.

To RSVP for online attendance use:

<https://attendee.gototraining.com/r/6934991865774227202>

College of Engineering  
and Computing  
NOVA SOUTHEASTERN UNIVERSITY | **NSU**  
Florida



## Cybercrime 101

Learn about Federal  
Cyber Crime laws, and  
hear real world  
examples of how  
vindictive insiders  
became criminal  
defendants with a few  
keystrokes and more.



Speaker Details:

Aurora Fagan, JD

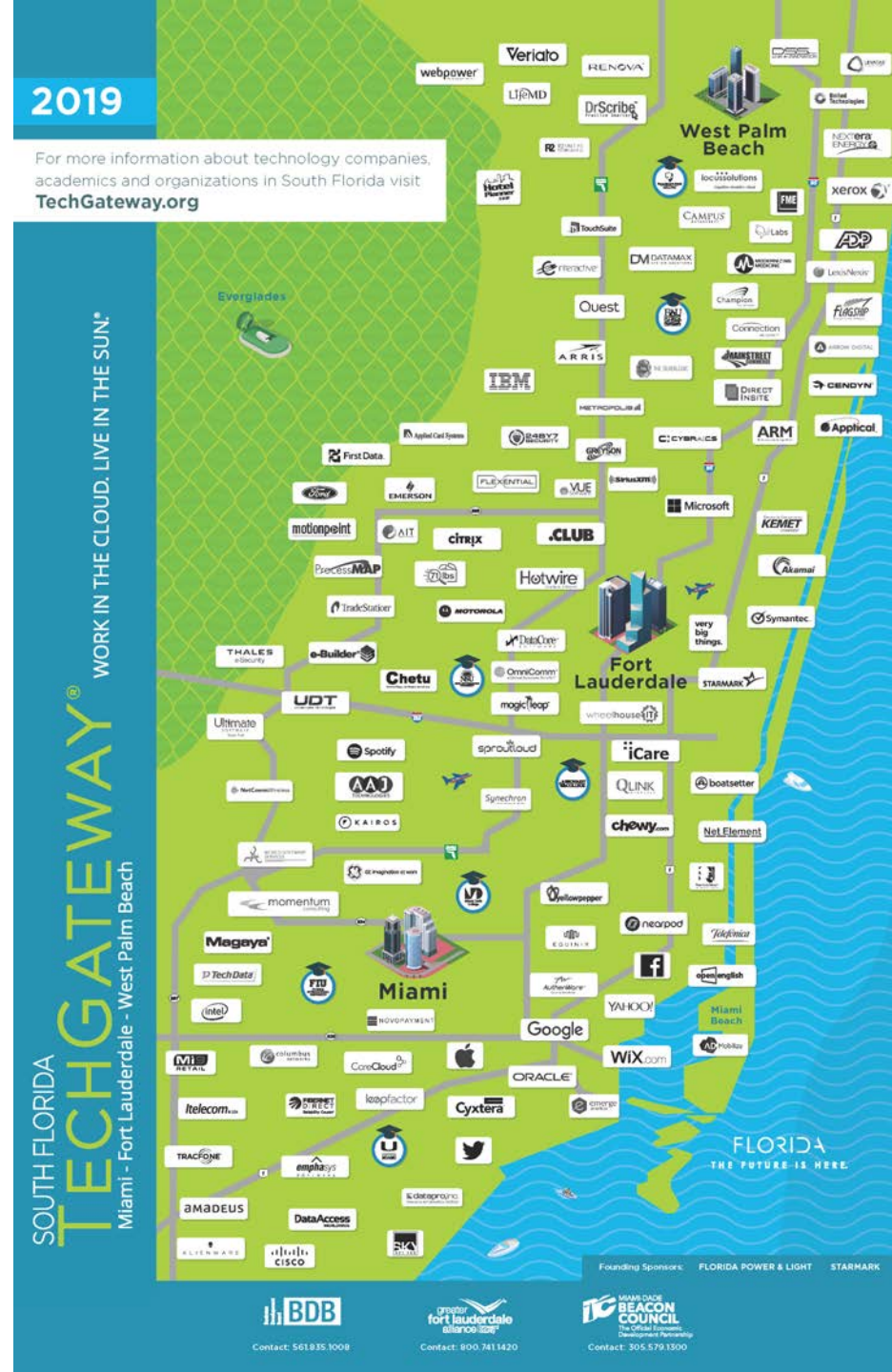
Assistant US Attorney  
U.S. Department of Justice

Register on **ii**handshake

College of Engineering  
and Computing  
NOVA SOUTHEASTERN UNIVERSITY | **NSU**  
Florida



# SF high-tech companies



# Work in the Cloud. Live in the Sun.™

South Florida The perfect place for your company  
The perfect place for your talent



nearly **80,000**  
information & communication  
technology workers

**3.1**  
million  
person labor force



**3 international**

airports connecting business leaders  
by way of 2000+ daily flights



**zero**  
state  
income  
tax



**53%**  
of the  
population  
is bilingual



home to the  
**first**



IBM PC  
and first smartphone



almost half the population  
**under 40**

home to the most

**start up**  
activity in the U.S.



**express rail  
system**

connecting 3 metropolitan areas



Visit [techgateway.org](http://techgateway.org) to see  
IT companies in South Florida



- South Florida Tech Gateway –Miami, Fort Lauderdale, West Palm Beach
- <https://www.techgateway.org/>
- Increasing number of start-ups
- Increasing demand on Cybersecurity talents



# Faculty support

- 7 full-time faculty members in cybersecurity
- Faculty members from other disciplines
- Adjunct faculty members

NSU | NOVA SOUTHEASTERN UNIVERSITY  
Florida

GIVING | ALUMNI | SELECT A COLLEGE | Search

UNDERGRADUATE | GRADUATE & PROFESSIONAL | ACADEMICS | STUDENT LIFE | RESEARCH | COMMUNITY | ABOUT NSU

REQUEST INFO | APPLY NOW

## CENTER FOR INFORMATION PROTECTION EDUCATION AND RESEARCH (CIPHER)

Home | NSU Home | CIPHER Faculty

CIPHER News and Announcements

CIPHER Faculty


NSU Cybersecurity Education Programs

NSA/DHS Center of Academic Excellence

CIPHER Community Outreach


Cybersecurity Competitions

Student Research




### CIPHER Faculty


Dr. Ajoy Kumar, Assistant Professor  
Department of Computing  
(954) 262-8346  
800-986-2247, ext. 28346  
Email: akumar@nova.edu




Dr. Yair Levy, Professor and Center Director  
Department of Computing  
(954) 262-2006  
800-986-2247, ext. 22006  
Email: levy@nova.edu  
Website: www.nova.edu/~levvy




Dr. Wei Li, Professor  
Department of Computing  
(954) 262-2068  
800-986-2247, ext. 22068  
Email: lwei@nova.edu  
Website: www.nova.edu/~lwei




Dr. Peixiang Liu, Professor  
Department of Computing  
(954) 262-2088  
800-986-2247, ext. 22088  
Email: lpei@nova.edu  
Website: www.nova.edu/~lpei




Dr. Greg Simco, Professor and Chair  
Department of Computing  
Department of Engineering  
(954) 262-2017  
800-986-2247, ext. 22017  
Email: greg@nova.edu  
Website: www.nova.edu/~greg



Dr. Junping Sun, Professor  
Department of Computing  
(954) 262-2082  
800-986-2247, ext. 22082  
Email: jps@nova.edu  
Website: www.nova.edu/~jps



Dr. Ling Wang, Professor  
Department of Computing  
(954) 262-2020  
800-986-2247, ext. 22020  
Email: lingwang@nova.edu  
Website: www.nova.edu/~lingwang

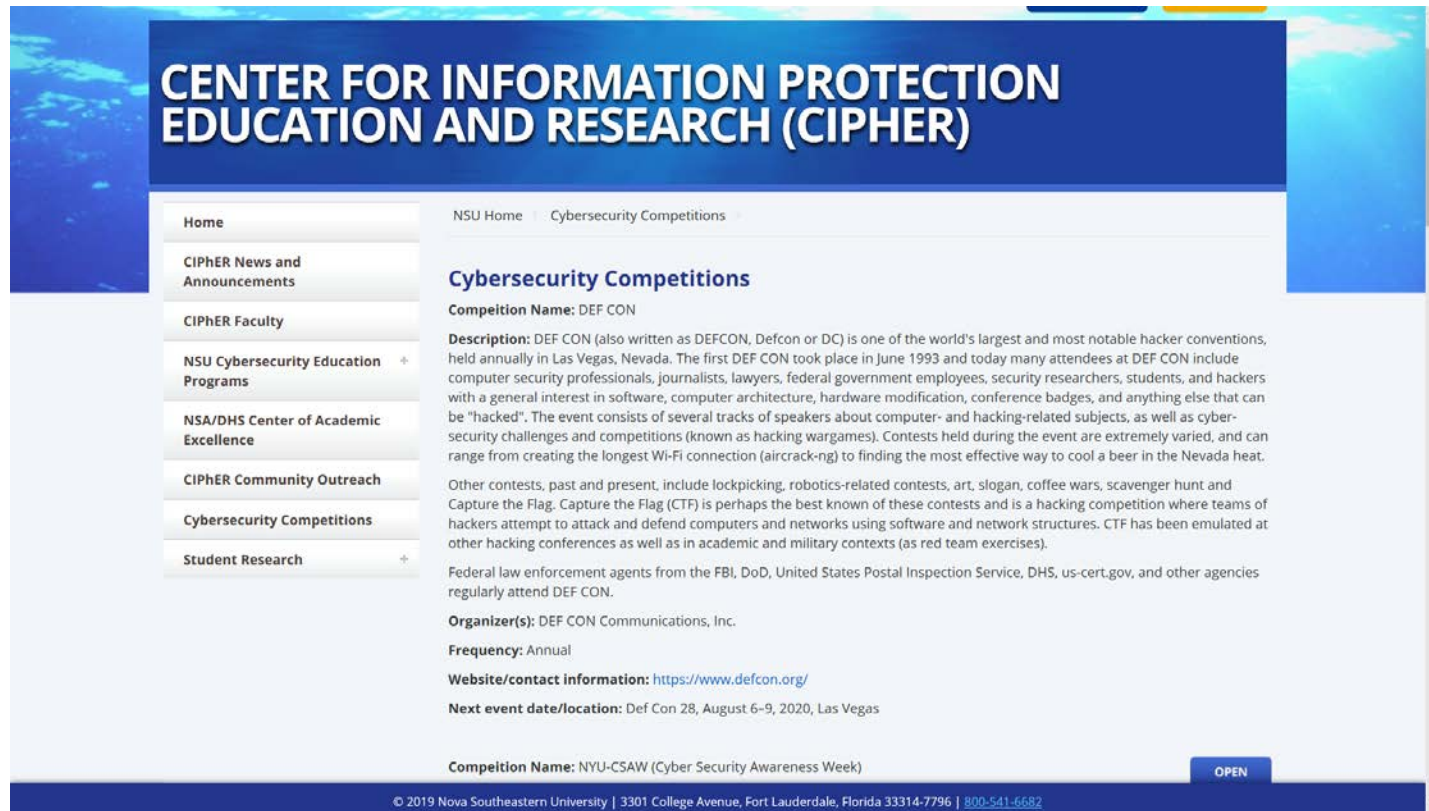


Updated: Oct 16, 2019

© 2019 Nova Southeastern University | 3301 College Avenue, Fort Lauderdale, Florida 33314-7796 | 800-541-6682

OPEN

# Competitions on the center's website



- <https://infosec.nova.edu/competitions/>
- Regular updates of competition information

# Designated POC

**Website/contact information:** <https://www.facebook.com/officialctf> and <https://github.com/facebook/fbctf>

**Next event date/location:** November 2019

**Competition Name:** Department of Energy CyberForce Competition

**Description:** The Department of Energy (DOE), capitalizing on the expertise of current national laboratory staff that previously hosted four successful cyber defense competitions to exercise interactive, scenario-based events, where teams engage in cybersecurity activities includes methods, practices, strategy, policy, and ethics. Through the CyberForce Competition™, DOE has worked to increase 1) hands-on cyber education to college students and professionals, 2) awareness into the critical infrastructure and cyber security nexus, and 3) basic understanding of cyber security within a real world scenario.

**Organizer(s):** US Department of Energy (DOE)

**Frequency:** At least once a year

**Website/contact information:** <https://cyberforcecompetition.com>

**Next event date/location:** November 2019, at one of the DOE national laboratories

\*\*\*\*\*

For more information about Cybersecurity Competitions, please contact:

**Dr. Wei Li, Professor**

College of Computing and Engineering

Nova Southeastern University

Email: [lwei \[at\] nova.edu](mailto:lwei@nova.edu)

*Updated: Sep 13, 2019*



OPEN

- Designated coordinator of cybersecurity competitions: Dr. Wei Li
- Reviewing process of events we promote



# Program-/Course-Level promotions

- 5 masters programs in College of Computing and Engineering
- Promotion mainly focused on two cybersecurity programs
  - M.S. in Cybersecurity Management
  - M.S. in Information Assurance & Cybersecurity
  - Students earn extra credits
    - E.g., ISEC 615: Fundamentals of Cybersecurity, ISEC 765: Managing Risk in Secure System, ISEC 665: Advanced Network Security
- Format
  - Student extra credits
  - Students participate in certification tests – e.g., CompTIA Security+, CISSP, etc.
  - Working on competitions as an option for course projects
    - E.g., Capstone courses

- If you are interested in participating in cybersecurity competitions, I will provide two (2) extra credit points if you demonstrate that you have registered, participated, and achieved some reasonable level at a recognized cybersecurity competition. If you wish to learn more about cybersecurity competitions, check our page via: <https://infosec.nova.edu/competitions/>

# Recent outcomes

- Students
  - Attending national competitions
  - Campus-wide competitions
  - Positive feedback from students
    - Better understanding on course materials
    - More hands-on practice
    - Career advancement
- Collaboration with other programs/colleges in NSU
- Collaboration with certification & training organizations
- Promotion of CAEs and the university
- Enrollment

# 2019 US Cyber Challenge (USCC)

- 8 students participated
- Scored 31 ~ 96
- Attend the bootcamp
- Prepared for national CTF



## 2019 US Cyber Challenge (USCC)

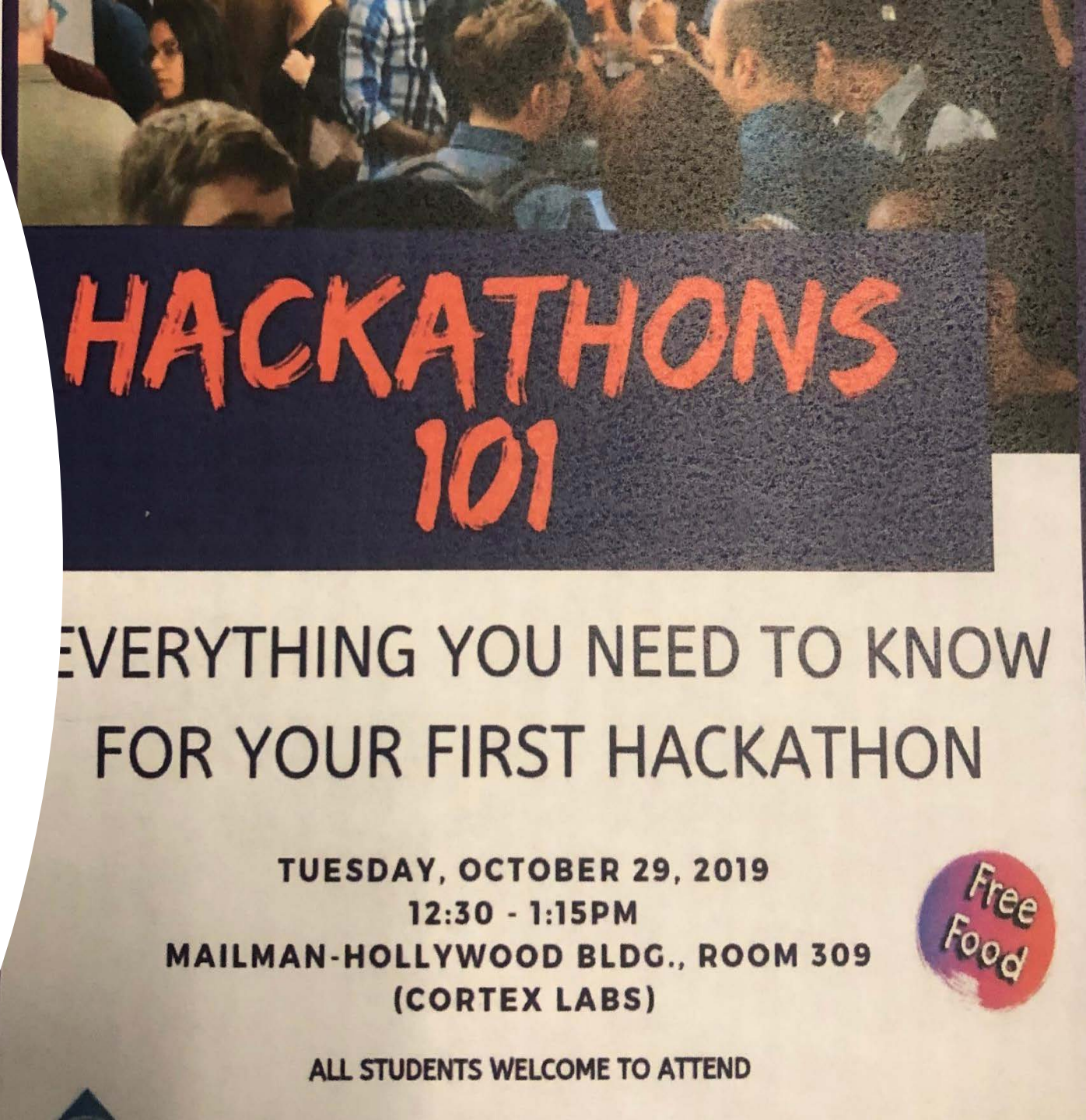
Eastern Regional Cyber Security Boot Camp @ Virginia Tech, Blacksburg, VA June 10-14, 2019

---



# Hackathons 101

---





# Hack NSU

# HACK NSU

Compete for the chance to win an Xbox One S  
the first NSU programming competition sponsored  
Microsoft and ACM.

Register, find more information, and read the rules  
to [www.hackerrank.com/hacknsu](http://www.hackerrank.com/hacknsu).



Microsoft



Association for  
Computing Machinery

**Saturday March 18th 1:00pm to 4:00pm**

**Carl De Santis Building Room 3046**

# Program-/Course-Level promotions - future steps

- Extend promotion to other courses
  - E.g., ISEC 695: Information Security Management Project, ISEC 650: Computer and Network Forensics, etc.
- Extend the promotion to other programs
  - E.g., CISC 650: Computer Networks

# More on future steps ...

- More faculty involvement
- Better engagement of students
- Collaboration with local industry and government
- Collaboration with other universities/institutions
- Support from the College and University
  - IT technical support
  - Funding
- Your ideas??

*Thoughts?  
Questions?*

*Thank you!*



**CAE**  
IN CYBERSECURITY  
COMMUNITY

**NSU** | NOVA SOUTHEASTERN  
UNIVERSITY  
Florida