The 11th Annual Mid-South Cybersecurity Summit

Dr. Kan Yang

The Center for Information Assurance (CfIA) successfully hosted the 11th Annual Mid-South Cybersecurity Summit at FedEx Institution of Technology Building on the University of Memphis campus on October 5th 2018.

This year, we have invited five guest speakers from government, hospital, academia and other global companies to give keynotes on various and critical cybersecurity issues, including Data Security, Blockchain, System Security, Healthcare Security and Internet of Things Security. Over 50 participants from external companies, organizations, institutions, and universities attend this cybersecurity summit. Everyone was very enjoying this summit.

What’s New in This Year’s Summit?

This year’s cybersecurity summit is organized by Dr. Kan Yang, the associate director of CfIA. He and his group have done an excellent job during the preparation of this summit.

Brand New Banner:

Dr. Yang designed a brand new banner for this Annual Mid-South Cybersecurity Summit, which is applied to all the sources related to this cybersecurity summit, e.g., the marketing flyers, name badge, and website, etc. He plans to use this banner as the brand of this annual cybersecurity summit in the future years.
New Website:
In order to make this cybersecurity summit be professional, Dr. Yang suggested to move the official webpage of the cybersecurity summit to the official website of the Center for Information Assurance (http://www.memphis.edu/cfia/). Subash Poudyal, the Graduate Research Assistant in the CfIA, helped setup the official webpage for this cybersecurity summit with the following link: http://www.memphis.edu/cfia/cybersummit.

For people who visit our old website (http://cyberexpo.memphis.edu), we also setup an automatic redirecting operation which can automatically redirect from the old website to our new webpage on the CfIA website. We will gradually shift all the history records of the previous years’ cybersecurity summit from the old website to our new website. As shown in the following figures, we have published all the related information on this new website:
New Flyers:
Dr. Yang designed two flyers by himself for the marketing of this cybersecurity summit: One is the event flyer for all the potential participants, and the other is for the potential sponsors.

New Efforts on Doing the Marketing:
This two flyers play an important part in doing the marketing of this cybersecurity summit:

• We have posted both flyers on the Department of Computer Science official Facebook and LinkedIn.
• We have printed out more than 100 copies of the flyers and my group post the flyers on the public broad around the whole campus.
• We have broadcasted the two flyers in email to all the potential external companies and institutions via the networking of FIT, the CS Department, and the UofM marketing office.
• We have sent the flyers to all the companies on the Industrial Advisory Board of CS department.
• We have sent the flyers to many the other department chairs (e.g., BIT, Engineering, Math, ECE, etc.) to invite students and faculty members to attend this cybersecurity summit.

Besides, we also do the advertisement on this event via some other channels:
• Advertisement on UofM This Week
• Advertisement on Radio – WKNO for two weeks before the event
• Advertisement on the CS department webpage
On the Day of Cybersecurity Summit

Everything is well prepared: Space, Flyers Folder, Food, Drinks and Name Badges.

At the beginning of this summit, Dr. Kan Yang welcome all the speakers and the audiences for this cybersecurity summit. He introduced this year’s cybersecurity theme: learn and discuss the most cutting-edge cybersecurity issues in nowadays IT industry. He also introduced the Undergraduate Cybersecurity Concentration Program and the Graduate Certificate Program on Information Assurance offered by Computer Science Department of University of Memphis.
Data Security by Michael A. Rodriquez

Our first speaker is Mr. Michael A. Rodriquez, Chief Information Officer and Director Information Services, City of Memphis. His topic is “Connecting the dots – when data matters the most!”. In this keynote, Mike talked about open data, which is data that is accessible to everyone that can be used for research, development, and innovation. Mike gave examples of how open data has improved services in areas such as animal shelters, solid waste, and city parks. All 3 of these areas used open data to find trends and developed ways to improve their services. The City of Memphis provides open data to the public for jobs, public safety, government, youth services, and neighborhoods. Right now, departments in the City of Memphis handle their own data and there’s no uniform security plan for that data. Initiatives are being made to get all data in a centralized location so that analytics can be done to determine patterns that will help improve services.

Blockchain by Xinhua Ling

The second speaker is Dr. Xinhua Ling, Founder and CEO of XLNTEC Inc. The topic is “Blockchain, its applications and challenges in industry”. Dr. Ling first introduced what is blockchain, why/when to use blockchain and how to decide if you need blockchain. He first reviewed the history of blockchain and introduced three category of blockchain: public chain, private chain and hybrid chain. Then, he described the technical pillars of blockchain: data storage, consensus, cryptography and P2P communication. After showing the benefits that blockchain can bring, he also gave a decision tree strategy to decide if a blockchain is needed. In the second part of his talk, Dr. Ling introduces some blockchain applications in industry with the focus on financial industry, healthcare and transportation and supply chain industry. He finished his talk by describing some technical and non-technical challenges in Blockchain.
Healthcare Security by Steve Crocker

Mr. Steve Crocker, our third speaker, is the Director of Information Security and Information Security Officer at Methodist Le Bonheur Healthcare. Steve stated that cybersecurity in healthcare is still in critical condition. Healthcare is still lagging behind in adopting best practices in cybersecurity for the healthcare industry. A task force was formed to discuss cybersecurity in healthcare and they determined that the industry needs immediate and aggressive attention to cybersecurity and it can benefit them to learn from other industries. Healthcare is targeted so much by cybercriminals because there are lots of security gaps and the medical records information has extremely high value and a long shelf life. Some of the challenges faced by the healthcare industry in cybersecurity are 1) legacy systems, 2) complex networks, 3) medical devices, and 4) asset inventory. To combat some of these challenges, the healthcare industry is working towards increasing upper management involvement, more focus on risk management, and adequate funding for cybersecurity programs.

System Security by David W. Brink

Our fourth speaker, Mr. David Brink, is the Program Protection & Security Manager in Ground-Based Midcourse Defense at Boeing Global Services. He talked about the Department of Defense (DoD) approach, standards, and guidelines to cybersecurity. The DoD currently institutes a risk-based approach to cybersecurity. Risk assessment is required to embrace a true risk management instead of security control assessment as a compliance activity. The fundamental concepts and actions are assets, vulnerabilities, threats, and risks. With assets, you need to make sure you know your assets and if they are tied to mission critical/business essential functions. Know your vulnerabilities and weak points in your chains. Vulnerabilities can be technical, people, or processes. Always monitor your threats and anticipate them so you can be ready. Rank your risks by how important they are, and which ones will cause the most damage.
**IoT Security** by Bryan Mitchell

Our last, but not the least speaker, Mr. Bryan Mitchell, is the Director of IT over FedEx’s Global Cybersecurity Command & Response organization in Information Security. He talked about IoT and global security. IoT is the concept that anything with an on/off switch can be connected to the Internet or to each other. The devices are imbedded with electronics, software, sensors, and network connectivity that enables them to collect and exchange data. It has been projected that by the year 2020, there will be 20 billion devices connected to networks. Some of us utilize IoT applications daily, such as smart homes and smart watches. IoT is good because it enables us to shop for clothes and groceries, turn on lights while we’re hundreds of miles away. At the same time, IoT is bad because it leaves us open to security vulnerabilities. Here are some ways to protect your IoT devices:

- Reset default password
- Keep software firmware updated
- Turn off IoT devices when not in use
- Disconnect an unsecure IoT device
- Turn smart devices off when not in use

The bottom line is: if you don’t protect your devices, all that convenience adds up to nothing. Secure your devices!

**Panel Discussion on Challenges and Opportunities in Cybersecurity**

Moderator: Dr. Xinhua Ling
Panelist: Mr. David W. Brink, Mr. Bryan S. Mitchell, and Dr. Kan Yang
(Due to the urgent business, Michael and Steve are not able to attend the panel discussion.)

Dr. Ling hosted this panel discussion, he first asked some questions about the cybersecurity challenges faced in corporate. David and Bryan described their experiences in their companies respectively.

The second question is about what is the most critical data breaches you have ever see? Dr. Yang talked about the iCloud data breaches and he also mentioned such type of incidents drive his research on cloud security with the assumption that the cloud service provider cannot be trusted. David and Bryan also share the ideas on data breaches. They both agreed that the most critical is the internal threats in a company.
The third question is for Dr. Yang: What is your expectation from Industry/Companies? Dr. Yang said that “As a faculty, students is our first priority!”. He answered the question in two aspects: 1. For undergraduate students, Dr. Yang said the industry/companies can outsource their small projects to our students who enrolled the cybersecurity courses. Two or three students can work together as a consulting team to help the companies solve some problems. This is a double-win strategy. 2. For the graduate students, Dr. Yang expected the real problems faced by the industry can motivate the research for graduate students. He is also looking forward to more collaborations between the industry and academia.

The fourth question is for David and Bryan: What is your expectation from University? They both agree that Talent is the most urgent for the companies. They mentioned that the job market on cybersecurity is very good and have a lot of opportunities. They also gave suggestions to students about what need to prepare in University before stepping into the industry.
Students also actively engaged in asking questions and discussion on the interesting topics.

After the panel discussion, Dr. Yang gave a personalized certificate of appreciation to each guest speaker, where the presentation photo is taken and printed out on the certificate.

**Summary**

The 11th Annual Mid-South cybersecurity summit is a very successful event. Dr. Yang welcome to all the participants to come again next year. He also mentioned that we will have more activities that can benefit for both the industry and the academia in the next year’s cybersecurity summit, including providing booth for company recruitment, and student demonstration of their research and projects.

**Acknowledgement**

We would like to thank my team (Jamal Hayat Mosakheil, Senjuti Dutta, Lei Yan, Kelly Freeman and Subash Poudyal) for hosting this great cybersecurity summit. Also, thanks for Raminder Lotay from FIT for the help of this cybersecurity summit. Special thanks to Dr. Dipankar Dasgupta, Dr. Judith Simon, and Dr. Robin Poston for providing the speaker information. Thanks Corinne Oconnor to help on all the financial issues. Many thanks to all of you for the advertisement of this cybersecurity summit.