The 12th Annual Mid-South Cybersecurity Summit 2022

Dr. Kan Yang

The Center for Information Assurance (CfIA) successfully hosted the 12th Annual Mid-South Cybersecurity Summit at FedEx Institution of Technology Building on the University of Memphis campus on Nov 4th 2022. This event is organized by Dr. Kan Yang, assistant professor and associate director of CfIA. This is the first in-person cybersecurity summit since the Covid pandemic. We are glad to see over 30 participants from external companies, organizations, institutions, and universities attend this cybersecurity summit.

The theme of this year's cybersecurity summit is: When AI meets Cybersecurity. Our guest speakers are from City of Memphis, Terminix.com, FBI, and University of Memphis.

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: When AI meets Cybersecurity. Dr. Lan Wang, Dunavant Professor and Chair of Department of Computer Science, gave a welcome speech. She introduced the department and our cybersecurity achievements.

Keynote Speaker 1: Augustine Boateng, Deputy Chief Information Officer, City of Memphis

During this talk, the keynote discussed AI's role in everyday life, where he presented the results of *phase 1* of his project to improve the city through leveraging various AI/ML technology. During this phase, the goal was to combat the growing problem of potholes in the city. This problem was difficult to fix with resident reporting or through the city workers going around Memphis trying to find potholes, the traditional methods. Boateng presented compiling results from *phase 1*, a joint effort with *Spring ML* and *Google Cloud*. The remaining phases will try to replicate this process of levering AI/ML for *blight detection*, *smart bins*, *conversational AI*, and *AI surveillance cameras*.

Keynote Speaker 2: Thomas Davis, VP and Chief Information Security Officer, Terminix.com

This talk discussed the lagging that the cybersecurity industry is suffering from when it comes to adopting AI/ML into the field. As the CISO of Terminix, the speaker has a unique insight into this topic about the other speakers. Some key themes presented during this talk touched on how there is a 385% increase in malware attacks and a 435% increase in ransomware after covid. This is because the attackers are adopting AI/ML algorithms into their attack vectors. At the same time, the defenders must catch up in adopting the same cutting-edge approaches in their systems, or this problem will continue to plague the industries.

Keynote Speaker 3: Dipankar Dasgupta, Hill Professor in Cybersecurity, Director of Center for Information Assurance, University of Memphis

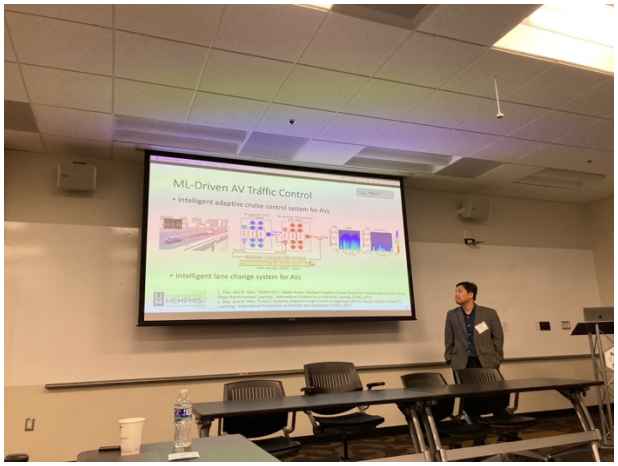
During this talk, Dr. Dipankar Dasgupta, Director of the Center for Information Assurance at the University of Memphis, discusses some of the leading problems facing the IoT field and how AI/ML tools can be used to improve the area. He stressed that AI/ML tools are not black-box solutions to all problems in computer science and that they sometimes introduce as many problems as they solve. Additionally, he clarified during his speech that AI/ML algorithms are just computational logic, which further demystified the field.

Panel Speaker 1: Hasan Ali (UofM)

Dr. Ali presented his field of research: Electric Vehicles (EVs) and Electric Vehicle Charging Stations (EVCS). His current work is focused on defending against false data injection attacks and distributed denial of service attacks. During his short introductory presentation, he broke down the major components behind the construction of an EVCS.

Panel Speaker 2: Myounggyu Won (UofM)

Dr. Won presented his current research on Intelligent Transportation Systems. He was able to show all of the problems in autonomously driving that he is currently interested in solving. Some topics he introduced were: intelligent adaptive cruise control systems, intelligent lane change systems, pedestrian intelligent prediction, and autonomous platooning.



Panel Discussion: Jason Middleton (FBI) Myounggyu Won (UofM), Hasan Ali (UofM)

During the panel discussion, the moderator *Dr. Kan Yang* asked the panel members about the most challenging part of AI/ML in their opinion. The one common thread that was drawn between all of the participants is that collecting data is the hardest part. Dr. Won referenced how problematic simulation data is, while Dr. Ali found it hard to find or create adversarial data. Another question during the discussion referenced why agencies like the FBI do not send out more preemptive alerts to individuals who may be

the target of a cybercrime. One interesting point that Jason Middleton (FBI) made about this problem was that this could cause *awareness fatigue* and would only make the community less willing or able to take verified threats seriously.

Summary

The 12th Annual Mid-South cybersecurity summit is a very successful event. Dr. Yang welcome to all the participants to come again next year. He also introduced the CyberCorps: Scholarship of Service program at the University of Memphis.

Acknowledgement

We would like to thank my team (Rhonda Smothers, Doris Allen, Meiying Zhang, Sheldon Ebron) for their help during this great cybersecurity summit. Thanks for Raminder Lotay, Michelle Parrish and Henry Robbins from FIT for the help of this cybersecurity summit. Special thanks to Dr. Dipankar Dasgupta for providing the speaker information. Thanks Corinne O'Connor to help on all the financial issues. Many thanks to all of you for the advertisement of this cybersecurity summit. Thanks for the support of NSF CyberCorps program, FIT and Department of Computer Science at the University of Memphis.