Report : Expert Lecture

Artificial Intelligence in Cyber Security

01.04.2022

The Department of Computer Engineering, J. C. Bose University of Science and Technology, YMCA organized an online expert lecture on **Artificial Intelligence in Cyber Security** for the students of B.Tech 6th Sem (CE, IT)students. The lecture was conducted on 1st April 2022 and was attended by more than 100 participants. Dr. Preeti and Dr. Shivi, Assistant Professors of the department, were the Program Coordinators of this expert lecture.

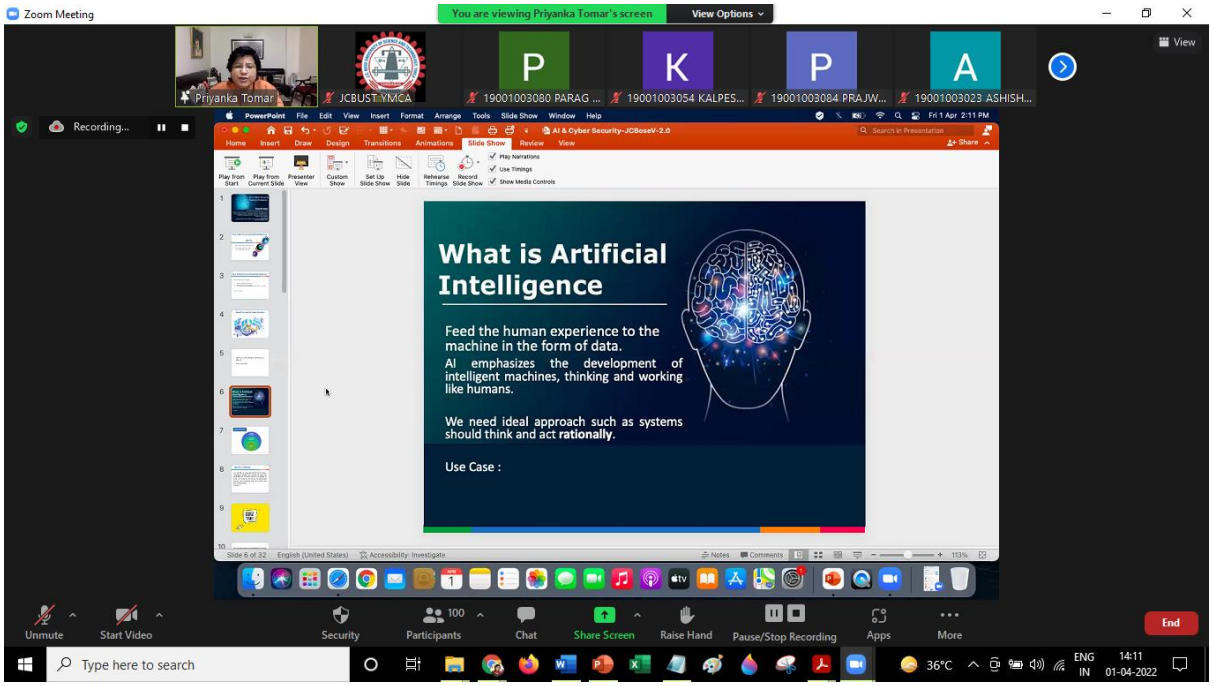
Dr.Shivi Garg welcomed the resource person, Ms. Priyanka Tomar and extended gratitude for sparing valuable time to deliver an online lecture to the students. She further acquainted the audience about the rich experience of the Ms. Priyanka Tomar. She is having 20 years' experience into various IT fields including Cyber Security & Cyber Forensics. She is also an author of Cyber Crime & Preventive Measures. She is also a founder of newerasystem.com (customized software development) and petalherbs.com (premium ayurvedic skin care products manufacturing). She is also a Cyber Security & Forensics Blogger – www.cyberpathshalaindia.com (A cyber awareness initiative Chosen as India's Dynamic Women changing the face of Indian Cyber Space.

Ms. Tomar started with the introduction to Artificial Intelligence (AI) quoting real-world examples where AI can be used efficiently.To make the session more interactive, she posed some quiz questions in between also. She further discussed different use cases where AI applications are prominent. As cited by Ms. Tomar, "AI emphasizes the development of intelligent machines and thinking and working like humans".

Session continued with applications of AI in day-to-day life such as face recognition in Apple devices. She also stated that there is large amount of data everywhere, which is always under threat by hackers and attackers. So, there is a need to make systems secure. She elaborated the need of AI in cyber security and illustrated various examples such as Phishing, zero-day exploits, Supply chain exploits, speech recognition, Learning and planning, etc. She also demonstrated how computer vision can be used cyber security.

Finally, Ms. Tomar discussed the various drawbacks of AI technology. Expert Lecture was concluded with a Q&A session.

The session concluded with the vote of thanks by Dr. Shivi Garg and Dr. Preeti Sethi. This fruitful session was appreciated by one and all present.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What is Artificial Intelligence
Feed the human experience to the machine in the form of data.
AI emphasizes the development of intelligent machines, thinking and working like humans.
We need ideal approach such as systems should think and act rationally.
Use Case :
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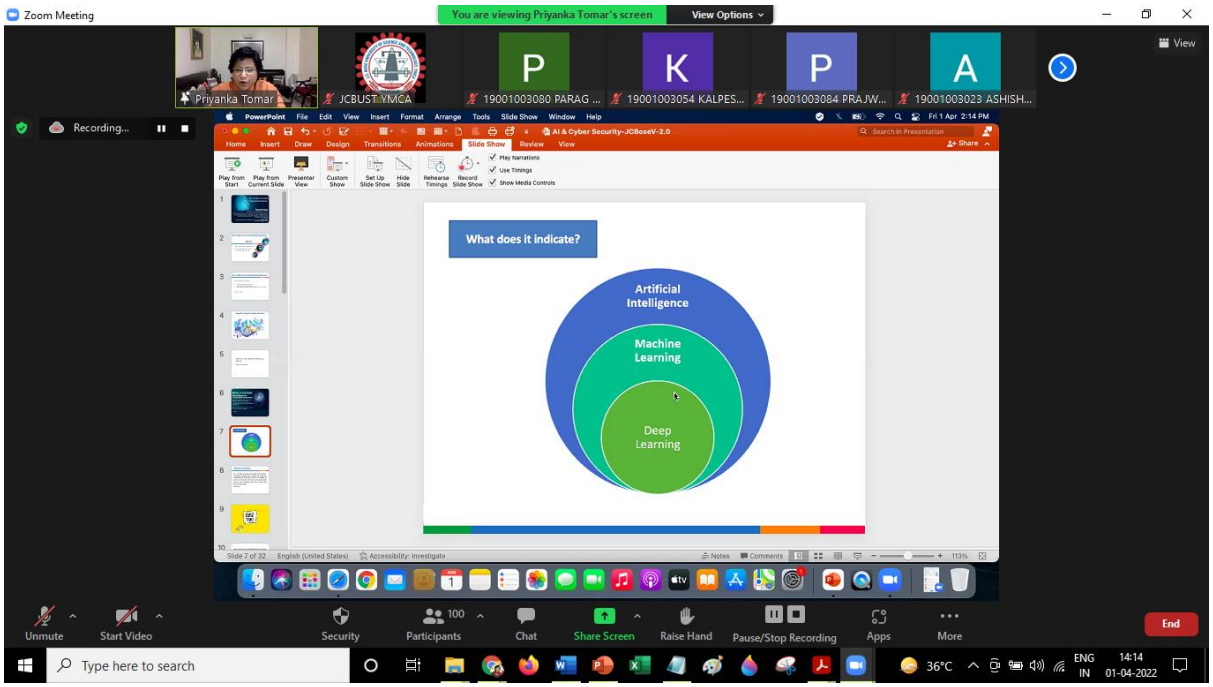
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What does it indicate?
Artificial Intelligence
Machine Learning
Deep Learning
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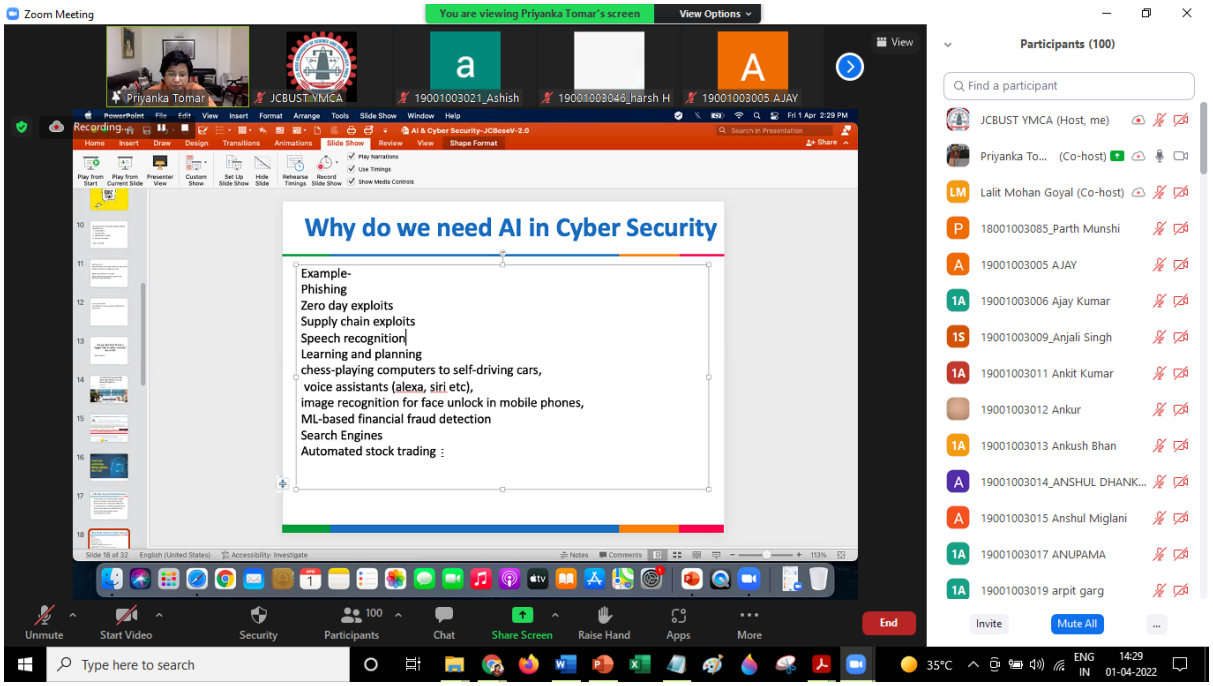
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Why do we need AI in Cyber Security
Example-
Phishing
Zero day exploits
Supply chain exploits
Speech recognition
Learning and planning
chess-playing computers to self-driving cars,
voice assistants (alexa, siri etc),
image recognition for face unlock in mobile phones,
ML-based financial fraud detection
Search Engines
Automated stock trading :
Participants (100)
Find a participant
JCBUST YMCA (Host, me)
Priyanka To... (Co-host)
Lalit Mohan Goyal (Co-host)
18001003085_Parth Munshi
19001003005 AJAY
19001003006 Ajay Kumar
19001003009_Anjali Singh
19001003011 Ankit Kumar
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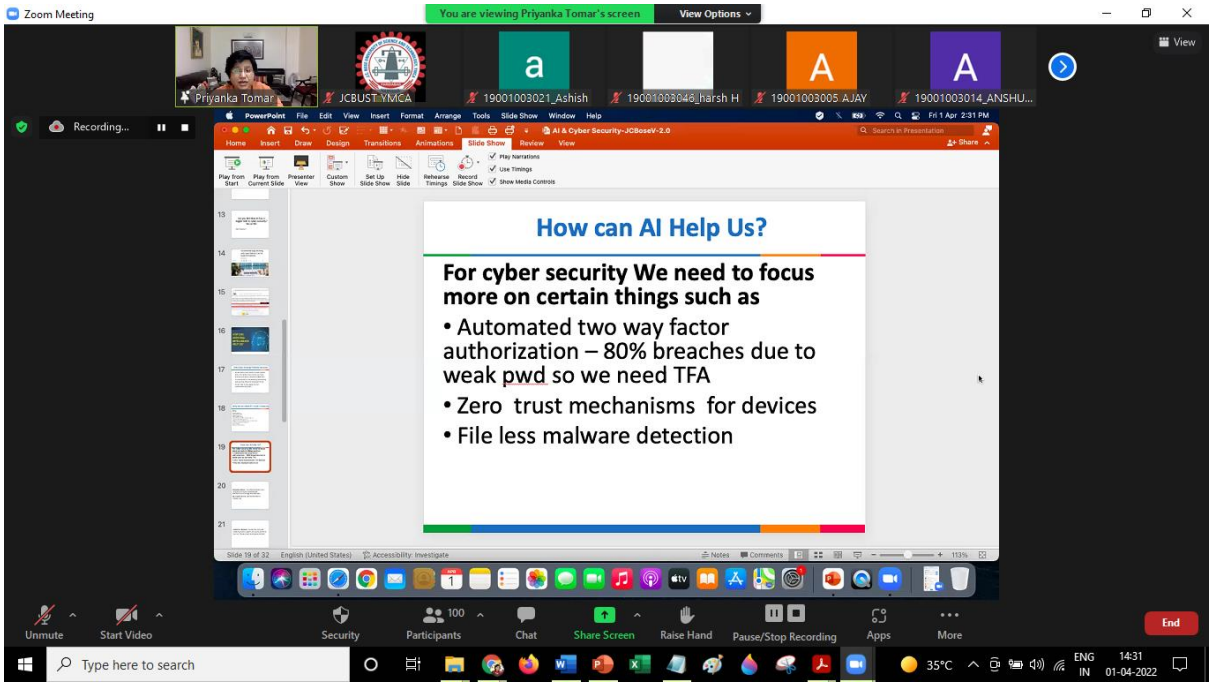
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How can AI Help Us?
For cyber security We need to focus more on certain things such as
• Automated two way factor authorization – 80% breaches due to weak pwd so we need TFA
• Zero trust mechanisms for devices
• File less malware detection
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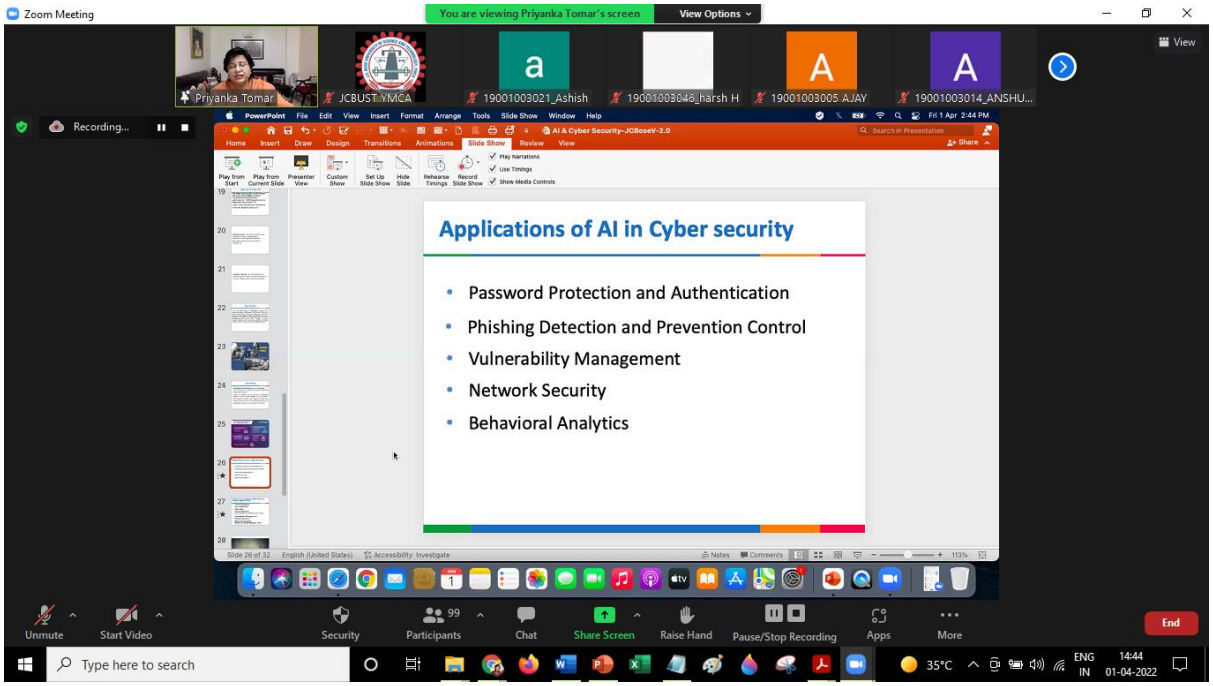
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Applications of AI in Cyber security
Password Protection and Authentication
Phishing Detection and Prevention Control
Vulnerability Management
Network Security
Behavioral Analytics
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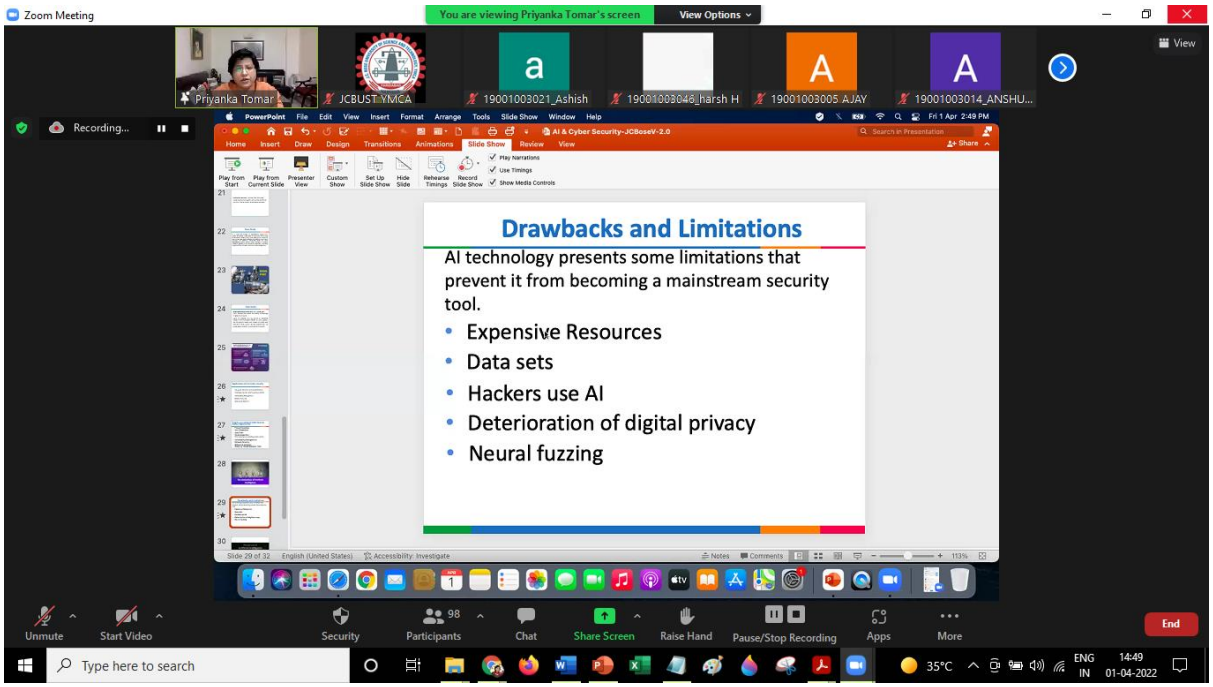
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Drawbacks and Limitations
AI technology presents some limitations that prevent it from becoming a mainstream security tool.
Expensive Resources
Data sets
Hackers use AI
Deterioration of digital privacy
Neural fuzzing
Unmute
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