

CYBERSECURITY

with Dr Gang Wang
and Jaron Mink

Talking points

KNOWLEDGE

1. What is phishing?
2. What techniques might attackers use during a phishing attempt?
3. What are deepfakes?
4. What clues might indicate that an image or piece of text is a deepfake?

COMPREHENSION

5. Why might people struggle to recognise deepfakes?

APPLICATION

6. How can deepfake technology be used in a positive way?

ANALYSIS

7. Why can deepfake-generated content be dangerous?
8. What problems result from training people to recognise deepfakes?
9. When it comes to detecting phishing and deepfakes, why is it hard for cybersecurity experts to stay ahead of cybercriminals?

SYNTHESIS

10. How do you recommend social media platforms protect users from deepfake content? For example, what detection methods could they use? How would you ensure any deepfake detection training does not result in stereotyping?

EVALUATION

11. How cybersecure are you? Evaluate your online presence. Do you follow Gang and Jaron's tips for staying safe? What personal details could a stranger find about you? How could you increase your cybersecurity?

Activities

Can you spot deepfakes?

Take this 'Spot the Deepfake' quiz, which asks ten questions about deepfakes and provides information on how to spot deepfake content: www.spotdeepfakes.org/en-US

Then, look at this collection of real and deepfake photos and see if you can tell them apart:

careerswithstem.com.au/deep-fake-quiz/#gsc.tab=0

The pros and cons of deepfakes

Creative Blog highlights the power and possibilities of deepfakes with this list of deepfakes created for entertainment purposes:

www.creativebloq.com/features/deepfake-examples

In contrast, this article highlights the threats deepfakes pose to national security: www.spyscape.com/article/why-deepfakes-are-a-national-security-threat

Read each article and watch some of the deepfake videos they contain. Can you detect any artifacts that indicate the footage has been artificially generated or manipulated? In your opinion, what are the greatest advantages and disadvantages of deepfake technology?

More resources

- Learn more about Gang and Jaron's deepfake social media study: jaronm.ink/deepphish
- In this Futurum article, ethical hacker Mia Landsem talks about her job hacking into computer systems: www.futurumcareers.com/Mia-Landsem-Associate.pdf
- Watch out for these ten common internet scams that target teenagers: www.investopedia.com/financial-edge/1012/common-scams-targeted-at-teens.aspx
- This informative online course by Reuters News covers topics on manipulated media and deepfake technology: www.reuters.com/manipulatedmedia