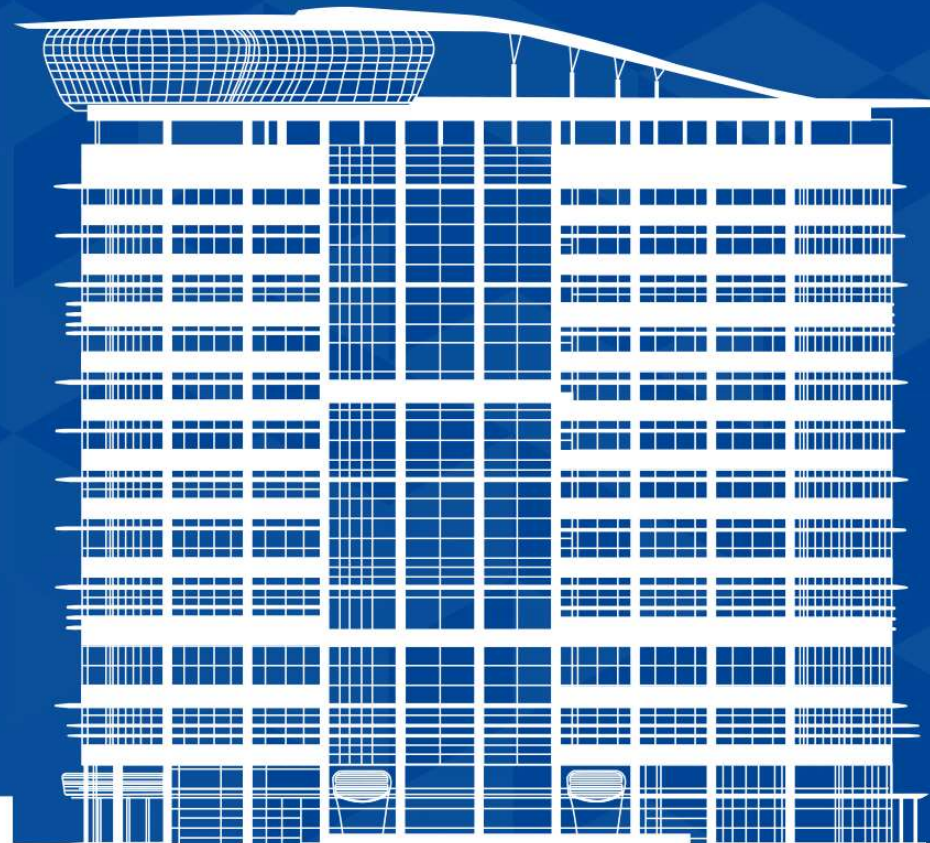


S.U.R.E. SKILLS SERIES FOR SENIORS

PART 4: SPOTTING DEEPPAKE IMAGES & VIDEOS

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LEARNING OBJECTIVES

- What is S.U.R.E.
- What is a Deepfake video
- How to spot Deepfake videos
- How to spot AI-generated images
- Activity: which face is fake
- Recap

WHAT IS S.U.R.E.

WHAT IS S.U.R.E.

- Click on the link below to find out more about S.U.R.E.!

<https://sure.nlb.gov.sg/blog/fake-news/fn0004>

WHAT IS A DEEPPFAKE VIDEO

WHAT IS A DEEPAKE VIDEO

It is a video of a person in which their face or body has been digitally altered so that they appear to be someone else, typically used maliciously or to spread false information.

- Usually created via software and artificial intelligence (AI)
- The more images and videos there are of a particular person (e.g. actor, politician), the easier it is for the AI and software to generate a realistic version of the 'target' person
- It is important to understand the **intention and purpose** in creating the Deepfakes or AI-generated images
- E.g. Movies and apps use them as a form of entertainment versus those used to impersonate politicians which may affect votes
- AI-generated photos can also be used in stock photo samples for marketing/advertising, without worries about privacy or hiring fees

WHAT IS A DEEPPFAKE VIDEO

What are Deepfakes and are they dangerous? <https://youtu.be/pkF3m5wVUYI>

HOW TO SPOT DEEPFAKE VIDEOS

HOW TO SPOT DEEPAKE VIDEOS

Watch out for the following signs:

1. **Head and body motions** – eyes don't blink, unnatural moving of chin and jaw, awkward body posture, jerky body movement, inconsistent positioning of head and body, etc.
2. **Complexion** – skin appears too smooth, abnormal or mismatching skin tone, discolouration, strange lighting or shadows on face, etc.
3. **Facial expressions** – devoid of emotions or unnatural facial expressions that do not match their words, awkward facial-features positioning, etc.
4. **Hair and teeth** – indistinct outlines of individual teeth, looks unreal or inconsistent
5. **Background and alignment issues** – edge of the person is blurry or looks superimposed on the background, visual misalignment where the neck meets the body, etc.
6. **Inconsistent noise or audio** - poor lip-syncing, robotic-sounding voices, strange word pronunciation, digital background noise, or even the absence of audio

HOW TO SPOT AI-GENERATED IMAGES

HOW TO SPOT AI-GENERATED IMAGES

Watch out for the following signs:

1. Water-splotches
2. Background problems
3. Asymmetry
4. Inconsistent hair
5. Fluorescent bleed
6. Weird teeth

Source: ABC News ([link](#))

HOW TO SPOT AI-GENERATED IMAGES

1) Water splotches

- Due to imperfections in the AI code, 'water splotches' are dead giveaways that the photos are fake.
- Often appear between the hair and the background

2) Background problems

- As the AI coding is only focused on faces, there may be strange background details which you can pick up
- E.g. Strange and distorted companions, unclear text and 'torn photo' look

HOW TO SPOT AI-GENERATED IMAGES

3) Asymmetry

- Paired accessories like earrings may appear different or completely missing on one side
- Eyes and ears can also be mismatched (e.g. different colored eyes)

4) Inconsistent hair

- Hair is difficult to render realistically, and some errors may be spotted
- E.g. Disconnected strands of hair, hair appearing too straight

HOW TO SPOT AI-GENERATED IMAGES

5) Fluorescent bleed

- Bright fluorescent colours in the background could sometimes 'bleed' onto the hair or face

6) Weird teeth

- Teeth may appear odd, asymmetric or 'fused' together

RECAP

- Images/videos can be easily generated by A.I. and manipulated
- If left unchecked, AI-generated images/videos can negatively impact individuals and society
- It is beneficial to learn about the tell-tale signs of AI-generated images/videos, and practise spotting them
- Be S.U.R.E. before you share



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Thank you

