



# Ethical decision-making and virtual environments

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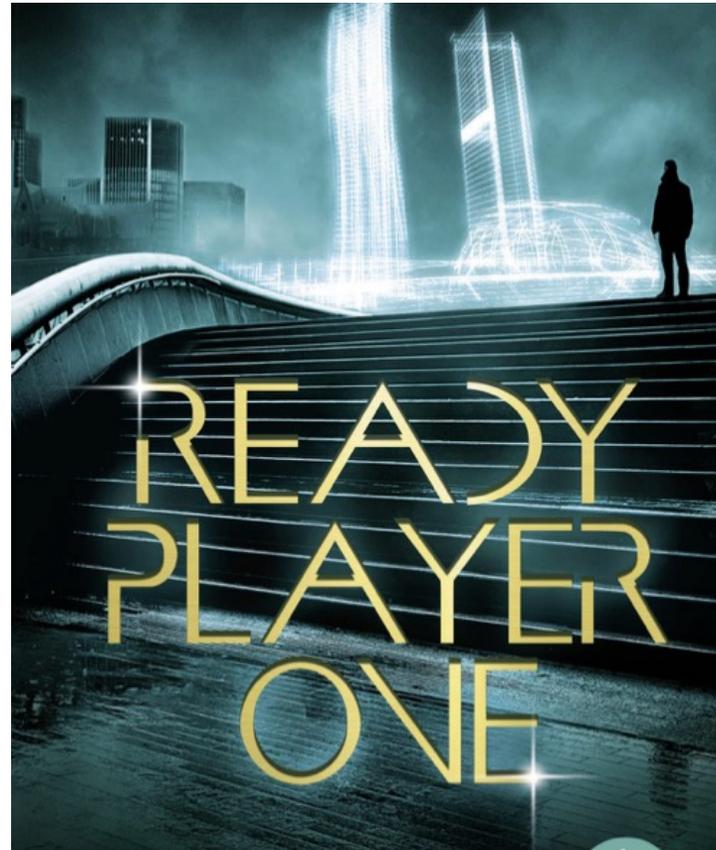
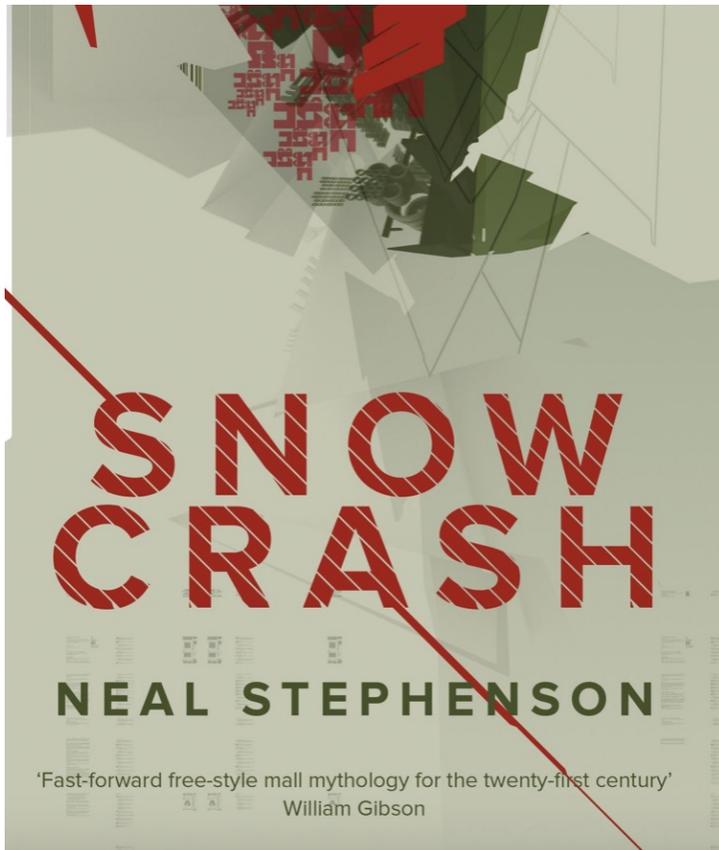
Workshop: Metaverse  
as a promise of a  
bright future? - social  
interactions in a  
world of isolation

THE 29TH IEEE CONFERENCE ON VIRTUAL REALITY & 3D USER INTERFACES

## Presentation structure

- Defining the metaverse
- Challenges to implementing the metaverse
- Defining ethical issues related to:
  - Privacy
  - Neural rights
  - Covert virtual objects
  - Bodily autonomy
  - Data governance frameworks
  - Pro-social/anti-social behaviour change
- Considering the future research and policy agenda

# Defining the metaverse



- Difficult at this stage to define what the metaverse is.
- A type of extended reality (XR) that integrates existing and future VR, augmented reality (AR) and mixed reality (MR) platforms.
- Bringing together social networks with gaming and other VR functions – a shared space rather than a single platform.
- From Snow Crash 'the Street', Ready Player One 'The OASIS', Red Dwarf 'Better than Life'
- ...is it a tool to enhance social life, escape from it, or just sell us things?

# Challenges to the metaverse “taking off”

- Is it just the techno-optimism of Mark Zuckerberg? We’ve been here before.
- VR remains niche – gaming, training, meeting. Can the metaverse integrate these platforms seamlessly?
- Virtual socialising made sense in the context of a locked-down world – is there going to be a future market demand for this technology?
- Is there currently the capacity to maintain persistent, connected virtual worlds (with free entry)?
- Single company monopoly – does Meta have sufficient public trust?
- Failure of the wetware – not least from motion sickness, sensory processing, addiction, obesity.

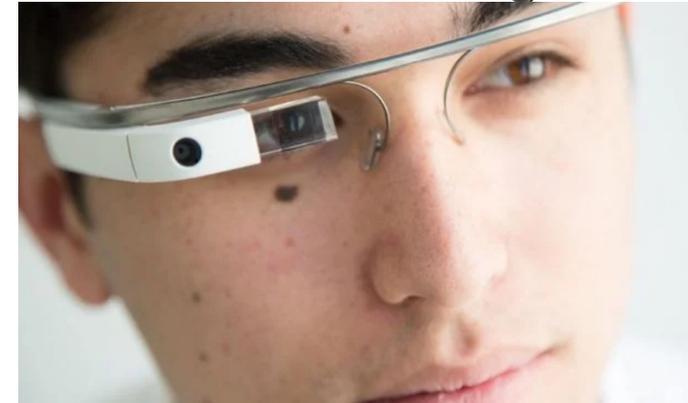


Image: Wikimedia, Screenrant

# Ethical issues related to the metaverse

- Metaverse ethics are not entirely 'new'
- Intersection of different information ethics challenges – AI, VR, gaming, social media, deep fakes, cryptocurrencies, NFTs, data governance across legal borders.



Image: Shutterstock

- Biometric, location, preference data captured within the metaverse – expansion of types and scale of data collection from that of existing social media platforms.
- Eye-tracking data – what are we looking at and interacting with? How is this used to influence what we are then ‘fed back’ through the metaverse? Eye-tracking *is* thinking.
- “Nudging” – using our irrational decision-making to sell products, shift public opinion, set political agendas
- Social vulnerability – the immersive nature of VR can create sensory overload, leaving us vulnerable
- Not government but private industry controlling and selling data. Lack of accountability.

# Neural rights

Image: The Guardian



- AI – more complex machine learning – predictive capacity
- Sensor fusion – numerous data collection devices gathering bodily data, but potentially also neural data – learning from our actions and becoming *context-aware*.
- Neuro-rights to an identity, free will and internal mental privacy
- Issues of *informed consent* – can this be continually established in an ever-shifting virtual landscape?

# Covert virtual objects

- Deep fakes – video editing + machine learning
- Does being ‘in’ the metaverse make it even harder to differentiate truth from fiction?
- Chatbots – the Turing Test
- Protection of vulnerable people from phishing, identity theft, political manipulation
- Offline impacts on differentiating truth from fiction.
- But also – overcoming state propaganda (vis-à-vis Russian control of messaging regarding the Ukraine invasion).

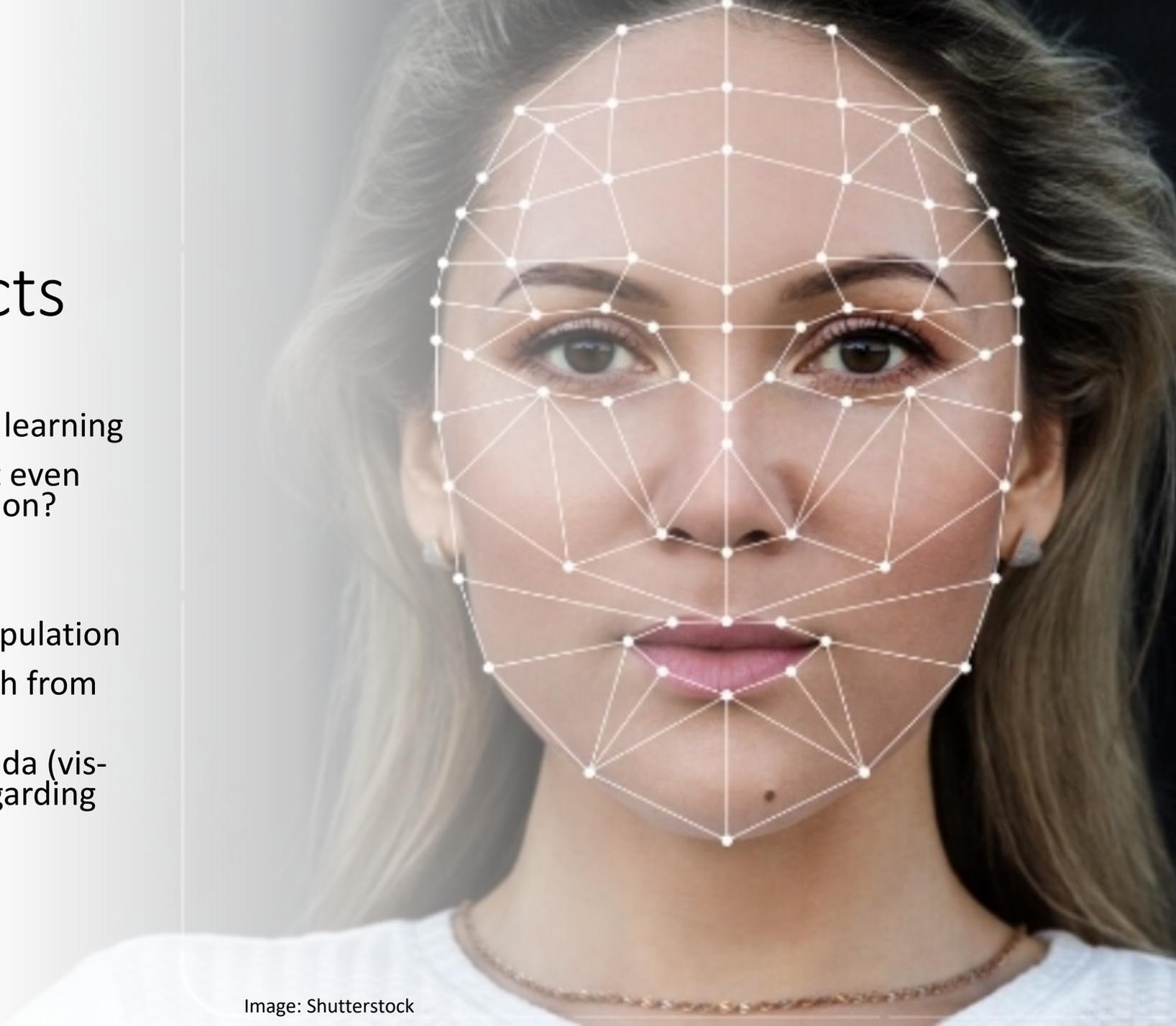




Image: Meta/Horizon Worlds

# Bodily autonomy

- Sexual or 'physical' abuse and harassment in virtual environments
- Common misogyny experienced in gaming environments
- Negative impact worsened by the immersive nature of VR
- Children using these platforms – experiencing simulated sexual actions that constitutes sexual abuse.
- Meta discussed use of a 'bubble' to protect users (in Horizon Worlds), though this doesn't include actions perpetrated by others
- How is the metaverse 'policed?' What are the penalties for breaking the rules?

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## Governance frameworks

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- Ethical frameworks around the governance of XR regarding data collection collected through these metaverse systems, who uses that data and who stores it?
- Connectivity across national jurisdictions and data protection laws (Meta and the EU GDPR).
- Reactive technology laws – market-led approaches
- Need for ‘real time technology assessment’ (Guston and Sarewitz, 2002), responsible research and innovation.
- Who are the stakeholders? Who is consulted?
- How are democratic norms upheld in a privately owned space?
- How is ‘fake news’ tackled?
- How are echo chambers formed or dismantled?





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## Virtual Reality, Empathy and Ethics

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# Pro/anti-social behaviour change

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- VR as ‘empathy machine’ – can it promote pro-social interaction?
- Construal level theory – reducing *social distance*
- Embodiment and immersion – heightened behavioural influence
- Evidence on pro-social and anti-social behaviour change through gaming environments?
- Are the effects persistent? Does it depend upon length of time and depth of exposure?
- Potential negative effects - addiction, loneliness/isolation (heightened among children and young people).
- VR as *dramatic rehearsal* (Dewey)– to explore interactions imaginatively and thus promote ethical learning and the development of new moral habits.

# Conclusion – what are the emergent research and policy questions?

## The Collingridge dilemma.

- Strong democratic control of technology
- Heightened by monopoly control by Meta

## Better understanding of public attitudes, specifically:

- Market for the technology
- Public trust in Meta
- Knowledge and expectations of privacy and data protection

## Anticipatory legal frameworks regarding:

- Privacy rights, including neurological rights
- AI, machine learning
- Coordination and sale of data, third party involvement, third party involvement
- Deep fakes
- Algorithmic governance, protection of democratic rights

## Stronger understanding of persistent impacts of immersion

- Physiological, neurological (proprioception, visual perception)
- Social and ethical – anti-social behaviour change, bullying, isolation, addiction



Any questions?

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