



TARTU ÜLIKOOL

filosoofia ja semiootika  
instituut

# Infomõjutustegevus ja tehisintellekt

Semiootiline lähenemine väärinfole ja  
infomõjutustegevusele (FLSE.00.346)

13. november 2024

Auli Viidalepp

Tartu Ülikool, semiootika teadur

Torino Ülikool, külalisteadur

*Uurimistööd on finantseerinud Eesti Teadusagentuur (PUTJD1202)*



# Ülevaade

Tehnoloogia (mitte)neutraalsus

Süvavõltsingute (sv) levik, näited

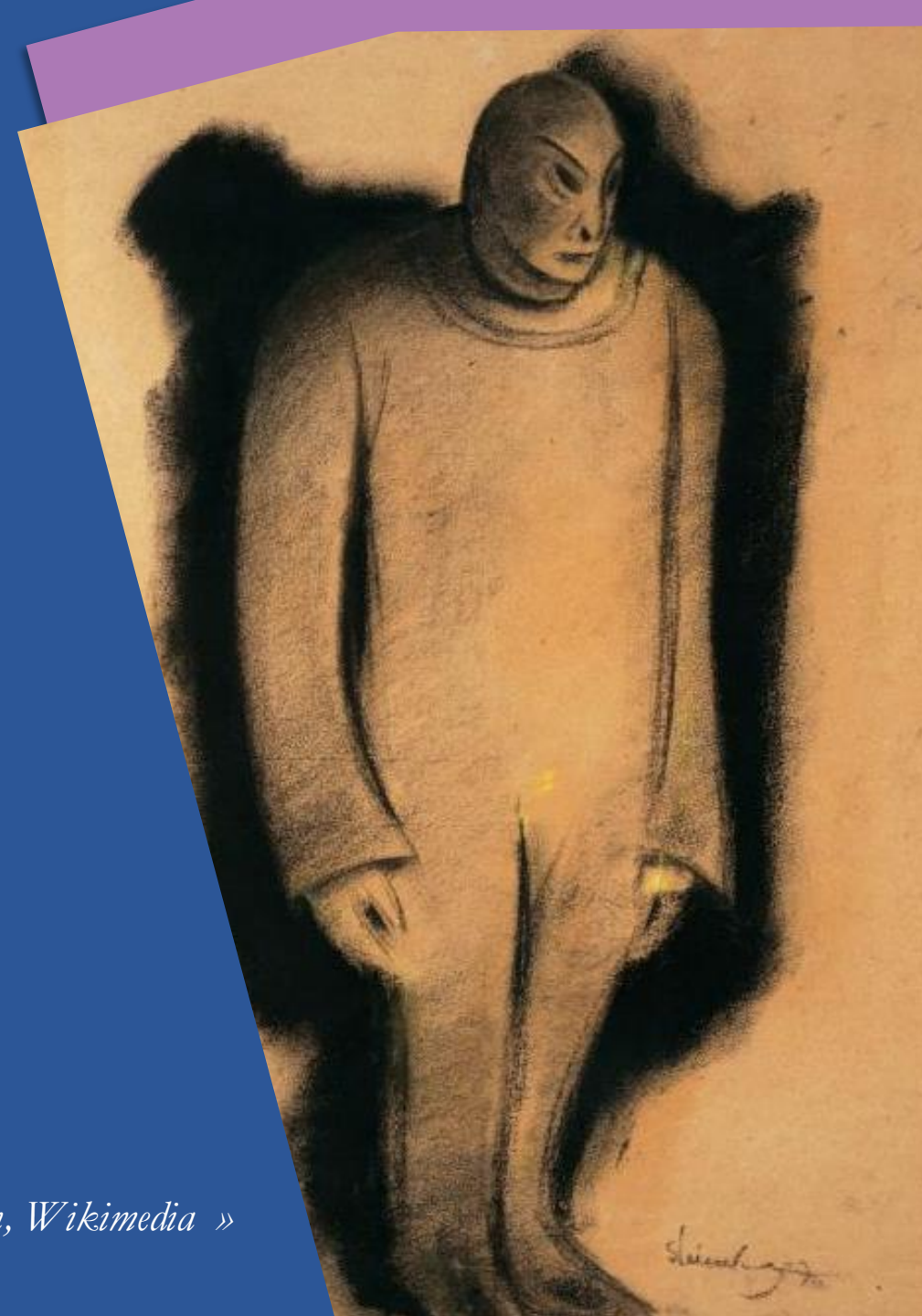
Tõlgenduspaindlikkus

Sv kui AV manipulatsioon

Konteksti tähtsus

Infomõjutus / aktiivmeetmed

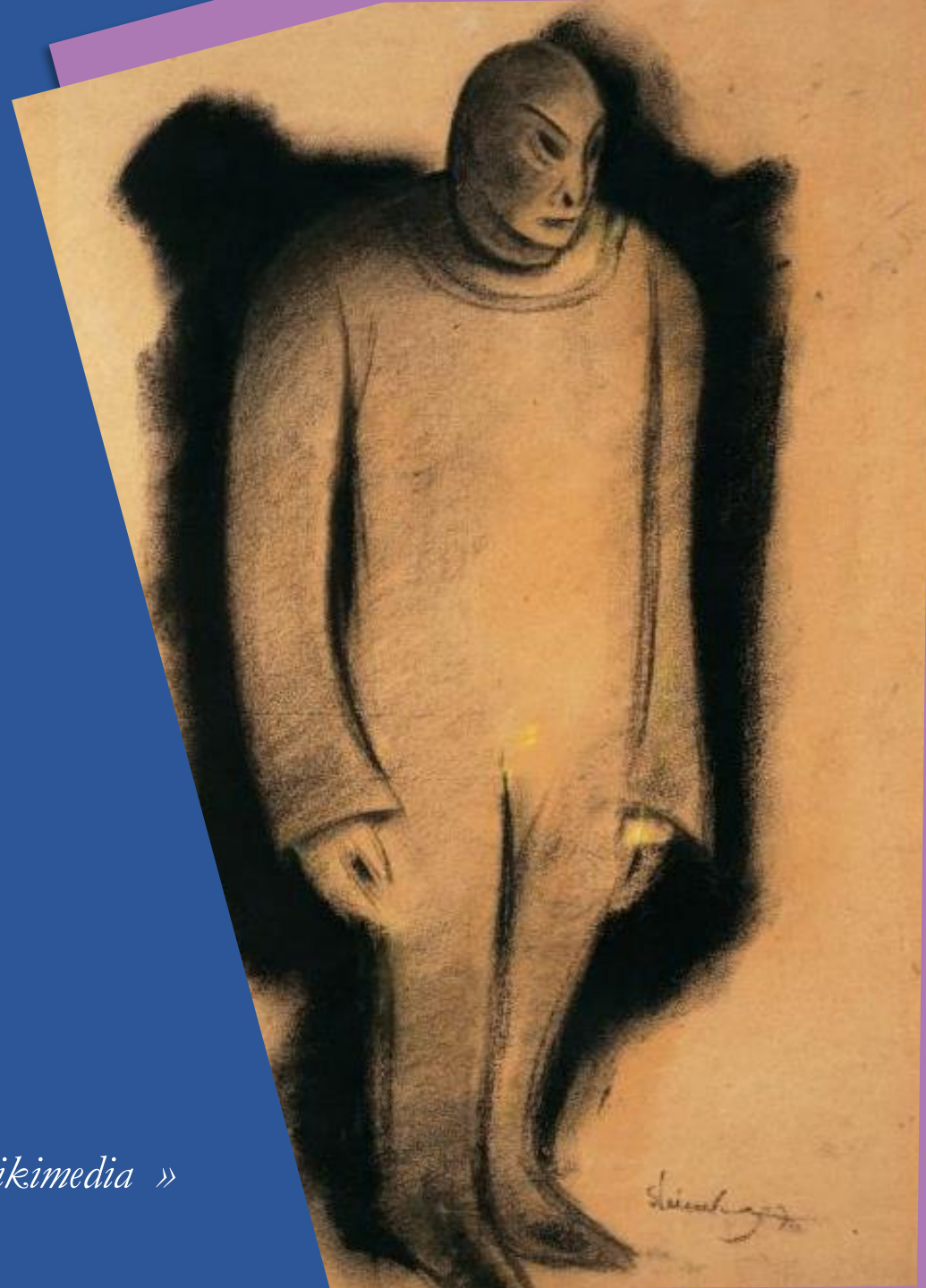
*Golem by Hugo Steiner-Prag. 50 WattsBooks, PublicDomain, Wikimedia »*





# Tehnoloogia: hea, halb või neutraalne?

*Golem by Hugo Steiner-Prag. 50 WattsBooks, PublicDomain, Wikimedia »*

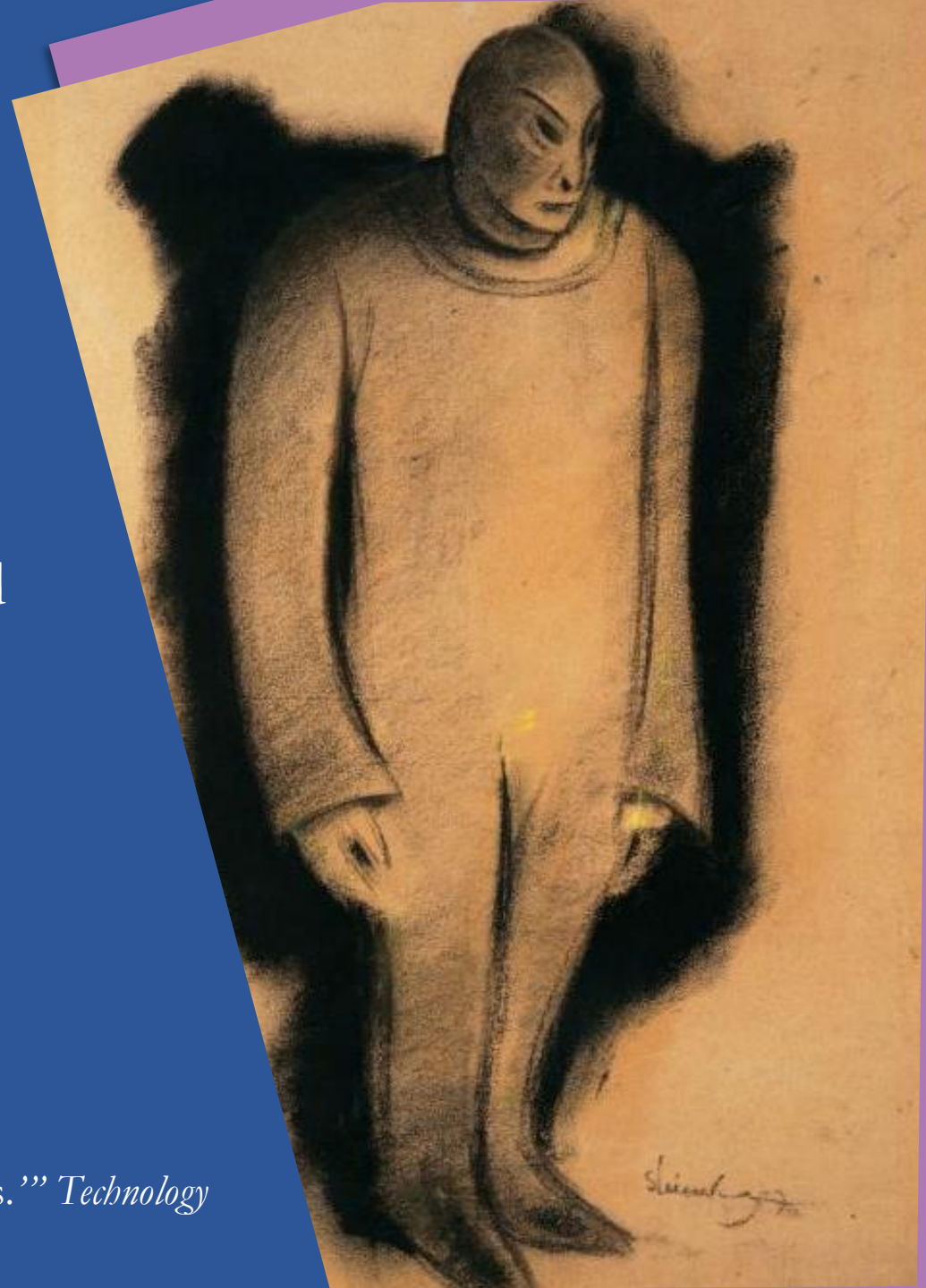


# Tehnoloogia ei ole iseenesest hea ega halb, kuid pole ka neutraalne

„Selle all pean silmas, et tehnoloogia ja sotsiaalse ökoloogia vastastikmõju on selline, et tehnilistel arengutel on sageli keskkonnaalaseid, sotsiaalseid ja inimlikke tagajärgi, mis ulatuvad palju kaugemale tehniliste seadmete ja praktikate endi otsestest eesmärkidest, ning sama tehnoloogia võib anda üsna erinevaid tulemusi, kui seda rakendatakse erinevates kontekstides või erinevates tingimustes.“

(Kranzberg 1986: 545-46)

Kranzberg, Melvin 1986. “Technology and History: ‘Kranzberg’s Laws.’” *Technology and Culture* 27 (3): 544–560. doi:10.2307/3105385.



# Süvavõltsingud 2019

- 14 678 sv videot veebis
- Neist 96% pornograafilised

 DEEPTTRACE

THE  
STATE  
OF

DEEPPFAKES

LANDSCAPE, THREATS, AND I

# Süvavõltsingud 2020

- 7000 videonäite põhjal, neist 81% näovahetused ja üldiselt 63% meelelahutuslikul eesmärgil; nende hinnangul vaid 19% pornograafilised
- 27 271 pornograafilist sv videot (veebis)
- 8 miljonit Twitteri kontot, mis postitavad desinformatsiooni vähemalt kord nädalas
- Tehnilised näited ja võimalused, kuidas sv videosid tehakse

Tammekänd, Johannes, John Thomas, and Kristjan Peterson. 2020.

Deepfakes 2020: The Tipping Point. Sentinel.

<https://thesentinel.ai/media/Deepfakes%202020:%20The%20Tipping%20Point,%20Sentinel.pdf>



## DEEPPFAKES 2020: THE TIPPING POINT

The Current Threat Landscape, its Impact on the U.S. 2020 Elections, and the Coming of AI-Generated Deepfakes at Scale.

Just one Selfie to Create A Deepfake with the #1 Entertainment App in the US.

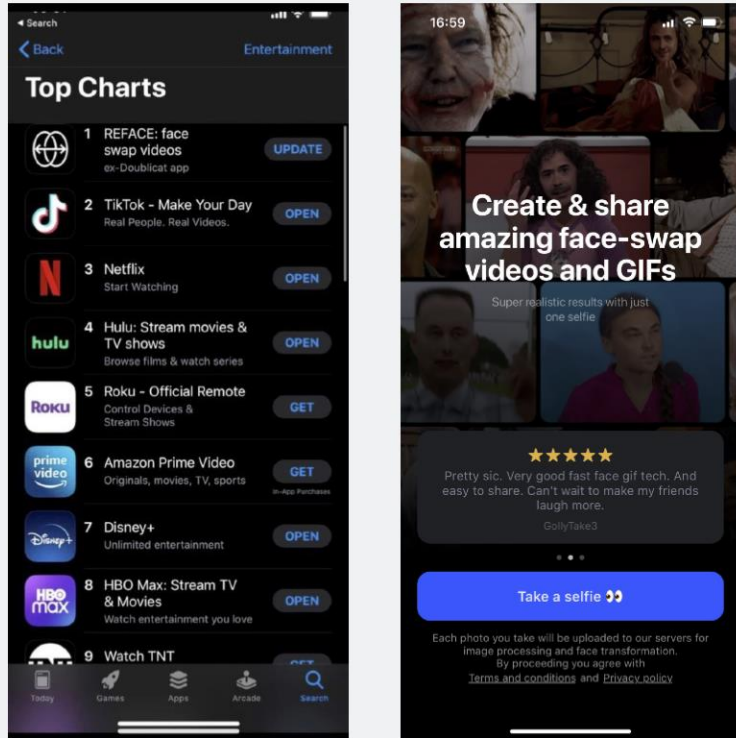


Figure 49. Screenshots of REFACE App shown as the #1 entertainment app in the US App Store.

The REFACE deepfake app hit #1 as the Entertainment app in the US App Store. It's hard to beat TikTok but REFACE app has done it because a single selfie is all that's needed to create a deepfake which can be instantly shared in social media.

Tammekänd, Johannes, John Thomas, and Kristjan Peterson. 2020. Deepfakes 2020: The Tipping Point. Sentinel.



You Won't Believe What Obama Says In This Video! 😊 . 2018.  
<https://www.youtube.com/watch?v=cQ54GDm1eL0>.



Daria Arkhipova\* and Auli Viidalepp

## Lotman's semiotics of culture in the age of AI: analyzing the cultural dynamics of AI-generated video art in the semiosphere

<https://doi.org/10.1515/sem-2023-0167>

received October 9, 2023; accepted October 26, 2023; published online November 9, 2023

**Abstract:** The use of AI-generated videos centered on the face raises various concerns among professionals and audiences due to the difficulty of providing coherent descriptive tools of their cultural significance. At the same time, the focus of artists and audiences shifts from the art as a text to the collaboration process between artificial intelligence (AI) and the involved social actors. This raises significant concerns between policymakers and other social actors looking for guidelines for the appropriate use of AI as a tool, collaborator or substitute for creative workers, which have immediate and long-term impacts on society and culture. Semiotics of culture provides descriptive tools for understanding and evaluating artistic texts and their role in the semiosphere, the semiosphere. This article addresses how Lotman's theory can inform the methodology for analyzing AI-generated texts as dynamic models. The theoretical framework developed by Lotman in his research on artistic text, film and culture can be applied to the studies of current shifts related to digital art. This paper looks at the reception of AI-generated videos focused on digital faces. In doing so, it analyses the dynamic processes in the creation and reception of AI-generated videos through their reception in related texts. The findings of this study might show how Lotman's theoretical framework can contribute to the analysis of the cultural dynamics evoked by AI-generated artistic texts.

Keywords: AI; AI-generated video art; Lotman; digital face representation; semiotics



demonflyingfox 2023. Harry Potter by Balenciaga.  
<https://www.youtube.com/watch?v=iE39q-IKOzA>.

...o-visual content has ignited a spectrum of concerns within  
 ...and the public. These concerns stem from the inherent

# Tõlgenduspaindlikkus

## *Interpretive flexibility*

= tehnilise artefakti võime tähendada (representeerida) erinevatele inimestele erinevaid asju (objekte)

Kajastab üldjoontes tehnoloogia ühiskondliku konstrueerituse ideed

Doherty, Neil F, Crispin R Coombs, and John Loan-Clarke. 2006. A Re-Conceptualization of the Interpretive Flexibility of Information Technologies: Redressing the Balance between the Social and the Technical. *European Journal of Information Systems* 15 (6). Taylor & Francis: 569–582. doi:10.1057/palgrave.ejis.3000653.

## A re-conceptualization of the interpretive flexibility of information technologies: redressing the balance between the social and the technical

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Crispin R. Coombs<sup>1</sup> and  
John Loan-Clarke<sup>1</sup>

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### Abstract

**Interpretive flexibility** – the capacity of a specific technology to accommodate divergent opinions – has long been recognized as playing an important role in explaining how technical artefacts are socially constructed. What is less clear is how a system's technical characteristics might limit its ability to be interpreted flexibly. This gap in the literature has largely arisen because contributions to this debate have tended to be rather one-sided, almost solely upon the role of the human agent in shaping the nature of the artefact, and in so doing either downplaying or ignoring the potential for interpretive flexibility but giving as much consideration to how a system's technical characteristics might limit its ability to be interpreted flexibly, as we do to its potential for social construction. In this paper, the results of two in-depth case studies, in order to provide a new conceptualization of the role of interpretive flexibility. In short, the paper helps explain how the initial interpretations of stakeholders are influenced by the scope and adaptability of the system's technical characteristics. Stakeholder interpretations will then, in turn, influence how the system's functionality is appropriated and exploited by users, to allow for different interpretations to be realized and sustained.

*European Journal of Information Systems* (2006) 15, 569–582.  
doi:10.1057/palgrave.ejis.3000653

**Keywords:** interpretive flexibility; empowerment; control; systems development; community trusts; United Kingdom

### Introduction

The modern organization is one arena in which the dictum 'the only constant is change' is particularly pertinent. A key driver of this unrelenting change is the application of information technologies to business systems. Information technology (IT) is now a ubiquitous and a critical part of the fabric of the modern organization, supporting day-to-day operations and all aspects of the decision-making process, from strategic positioning (Doherty *et al.*, 2003). It is therefore not surprising that information technologies and systems have a marked impact on the ways in which work is organized, and ultimately accomplished (Markus & Robey 1988; Doherty & Daniel & White, 2005). For example, Davidson & Chia (2001) demonstrate how staff in a hospital had to adjust clinical practices to accommodate the use of an electronic medical records system. Doherty & King (2001) suggest that the introduction of tech-

DATA &  
SOCIETY

# DEEPFAKES CHEAP FAKES

THE MANIPULATION OF  
AUDIO AND VISUAL EVIDENCE

Britt  
Joan D

Süvavõltsing →  
audio-video (AV)  
manipulatsioon

Paris, Britt, and Joan Donovan 2019. Deepfakes  
and Cheap Fakes.

# AV-manipulatsioon

Tõendite tõesuse tuvastamise ja kehtestamisega on läbi ajaloo tegelenud erinevad **institutsioonid**: ajakirjandus, kohtud, akadeemia (teadus), muuseumid jm kultuuriorganisatsioonid. Uute tehnikate lisandumisel on pea alati **käivitud** **kultuuriprotsessid**, mille käigus tekib uus tasakaal sisu levikukiiruse ja tõlgendusloogika vahel. Mõnikord on kaasnevat paanikat ära kasutanud **uued eksperdid**, et **suurendada** oma juriidilist, majanduslikku või diskursiivset **võimu**.

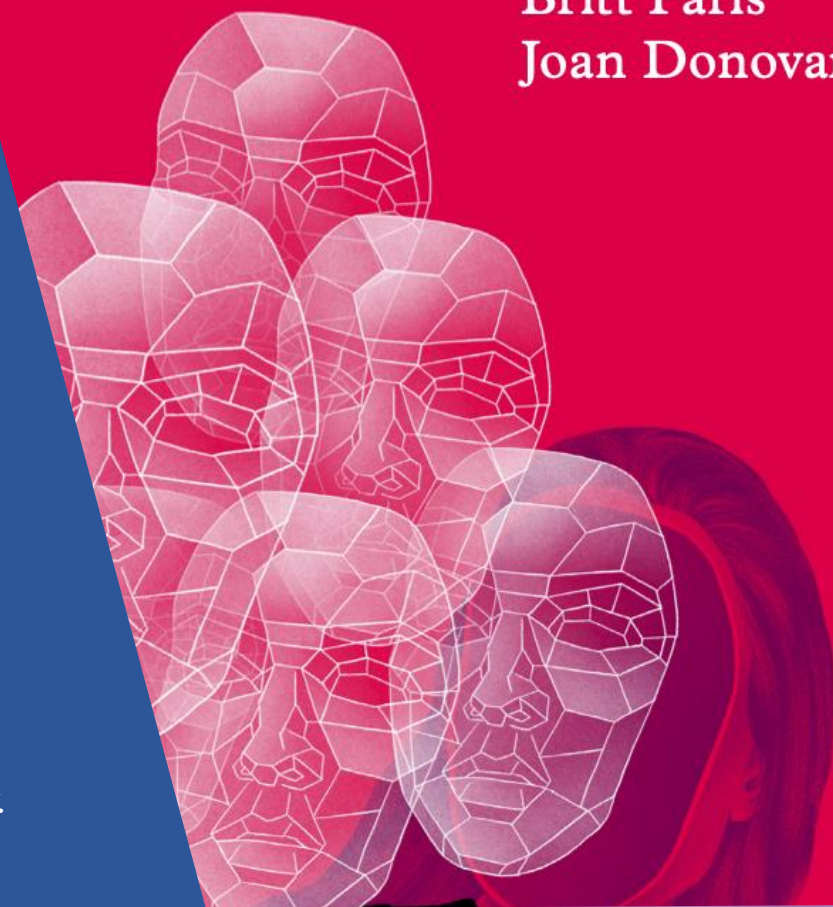
Paris, Britt, and Joan Donovan. 2019. *Deepfakes and Cheap Fakes*. Data & Society. <https://datasociety.net/library/deepfakes-and-cheap-fakes/>, lk. 7.

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SOCETY

## DEEPPAKES AND CHEAP FAKES

THE MANIPULATION OF  
AUDIO AND VISUAL EVIDENCE

Britt Paris  
Joan Donovan



# AV-manipulatsiooni tehnikad

- Virtuaaletendus
- Digitaalne „näovahetus“
- Hääle vahetus, hääle süntees
- Aeglustamine, kiirendamine
- Sarnaste isikute kasutamine
- Interpretatsioonide manipuleerimine
- Rekontekstualiseerimine

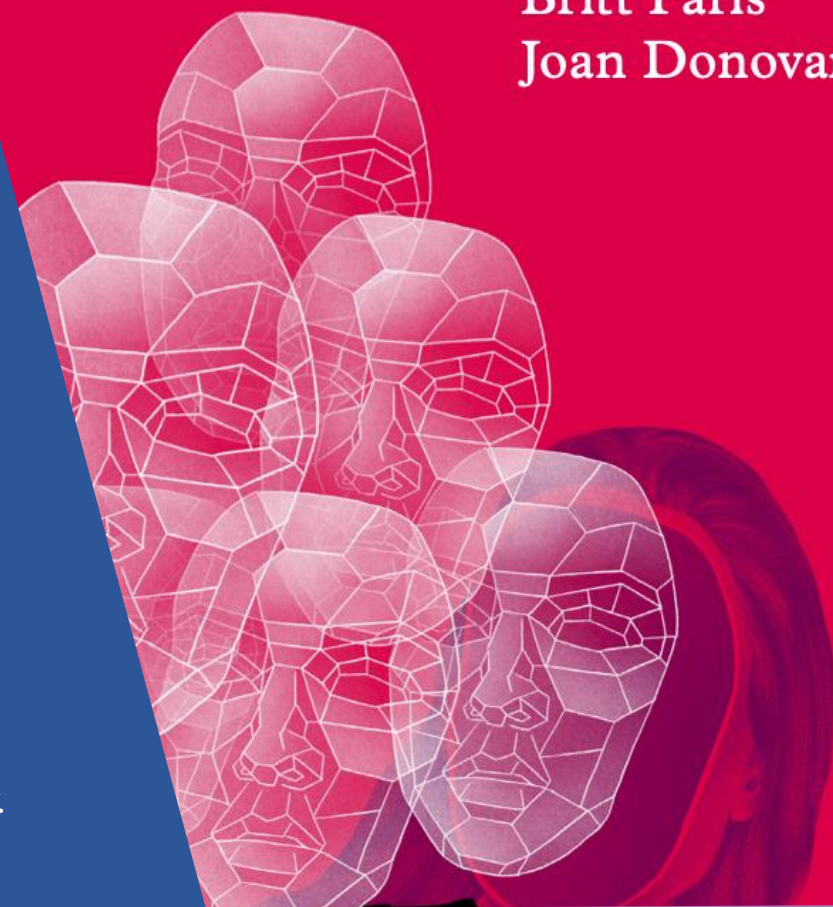
Paris, Britt, and Joan Donovan. 2019. *Deepfakes and Cheap Fakes*. Data & Society.  
<https://datasociety.net/library/deepfakes-and-cheap-fakes/>.

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## DEEPPAKES AND CHEAP FAKES

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AUDIO AND VISUAL EVIDENCE

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Joan Donovan



# AV-manipulatsioon

Tehnikate kättesaadavamaks muutudes suureneb oht eraisikutele, kes on poliitiliselt, sotsiaalselt või majanduslikult haavatavad

AV-manipulatsiooni ohjamine eeldab tõendite ja tõeloomeprotsesside ajaloo tundmist, et vältida võimu koondumist uute tehnoloogiate ekspertide kätte

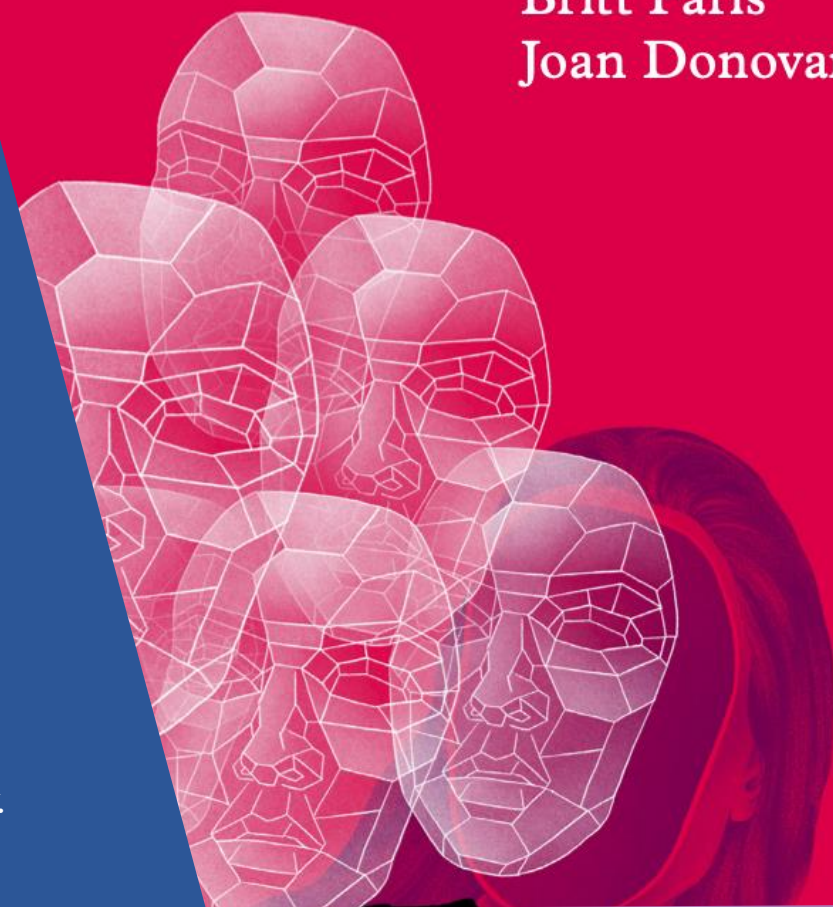
Paris, Britt, and Joan Donovan. 2019. *Deepfakes and Cheap Fakes*. Data & Society. <https://datasociety.net/library/deepfakes-and-cheap-fakes/>.

DATA &  
SOCIETY

## DEEPPAKES AND CHEAP FAKES

THE MANIPULATION OF  
AUDIO AND VISUAL EVIDENCE

Britt Paris  
Joan Donovan





# XX saj kui desinformatsiooni katselabor

Rid, Thomas 2020. *Active Measures: The Secret History of Disinformation and Political Warfare*. New York: Farrar, Straus and Giroux.

\*\*\*\*\*  
**ACTIVE  
MEASURES**

**The Secret  
History of  
Disinformation  
and Political  
Warfare**

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## XX sajand: desinformatsiooni katselabor

- Maailmasõdade vahel ja külma sõja ajal
- Professionaalne, organiseeritud valetamine
- Organiseeritud pettetegevuse ajalugu ei ole kahjuks vajalikul määral jõudnud lääne ühiskonna tead(v)usesse

Rid, Thomas 2020. *Active Measures: The Secret History of Disinformation and Political Warfare*.

\*\*\*\*\*  
~~ACTIVE  
MEASURES~~

~~The Secret  
History of  
Disinformation  
and Political  
Warfare~~

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# Desinformatsioon:

teadlikult ebatõene või eksitav info,  
mis teenib selle looja või levitaja  
eesmärke

Militerm. Riigikaitseterminite andmebaas.

<https://sonaveeb.ee/search/unif/dlall/mil/desinformatsioon/1/est>



# Aktiivmeetmed

- Metoodiline bürokraatiate väljund
- Sisaldab desinformatsiooni elementi
- Alati suunatud mingile tulemusele (nõrgestada vastast)
  - Liitlaste lõhestamine
  - Etniliste rühmade vahele kiilu ajamine
  - Grupi või erakonna siseselt üksikisikute vaheliste pingete tekitamine
  - Institutsioonide vastase usalduse õõnestamine

Rid, Thomas 2020. *Active Measures: The Secret History of Disinformation and Political Warfare.*

\*\*\*\*\*  
~~ACTIVE  
MEASURES~~

~~The Secret  
History of  
Disinformation  
and Political  
Warfare~~

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Laiaulatuslikud desinformatsioonikampaaniad on rünnakud liberaalse episteemilise korra või poliitilise süsteemi vastu, mille usaldus põhineb fakti-autoriteedi hoidjatel. (Rid 2020)

...inimkäitumise analüüsimine, prognoosimine ja muutmine on tänapäeval muutunud olulisteks sihtmärkideks. (O'Halloran 2022: 189)

O'Halloran, Kay L. 2022. "Matter, Meaning and Semiotics." *Visual Communication* 22 (1): 174–201. doi:10.1177/14703572221128881.

## Matter, meaning and semiotics

KAY L O'HALLORAN 

University of Liverpool, School of the Arts, UK

...lds – the world of matter and the world of meaning (see  
... and meaning: The two realms of human experience,  
... these two worlds and the physical, biological, social  
... s that connect them are investigated. In this respect,  
... the most complex because they involve physical sys-  
... ), biological systems (human beings), social systems  
... d meaning itself. Semiotic frameworks need to take  
... ous dimensions as changes in one system rever-  
... system as a whole. With this in mind, the interplay  
... niotic worlds from a social semiotic perspective,  
... on meaning and its significance in relation to  
... amples from various industrial ages, the article  
... ources (in this case, in mathematics, science  
... languages) are organized to structure reality  
... iotic combinations and the technologies aris-  
... ave changed the course of human history. In  
... d to the role of visual communication, both  
... rces (e.g. graphs, digital images) and visual

# Meelelahutus 2024

Intended for certain audiences ▾

SUBATHON 113 1d 15h 16m 32s LIVE

A.I. DONALD TRUMP A.I. KAMALA HARRIS

CALL WITH AI TRUMP & AI KAMALA  
!Call AtheneGPT.ai

CHAT  
plants are dying when they change from green to orange. What color will you change to when you kick the bucket?  
Ambathu: wtf was that  
its\_lemon\_tea: lmfaooooooooo

AI Trump \$2477.92 AI Harris \$4764.69

A.I. PRESIDENTIAL DEBATE (PARODY)

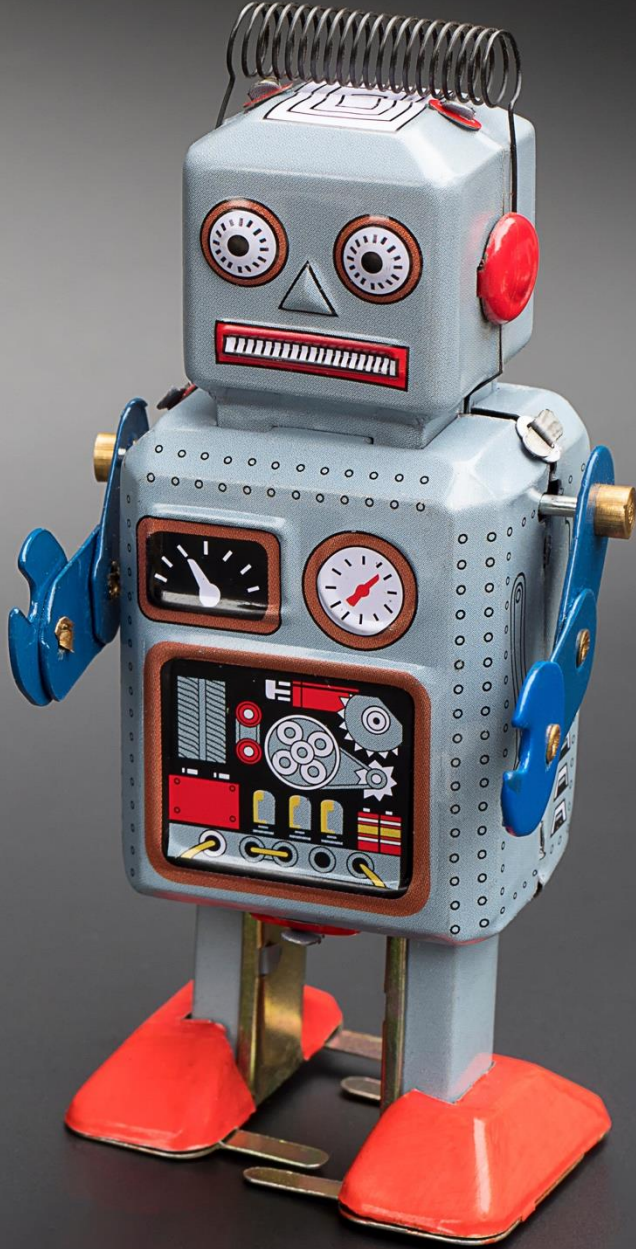
TrumpOrKamala2024 Follow Subscribe ▾

ELECTION 2024 LIVE

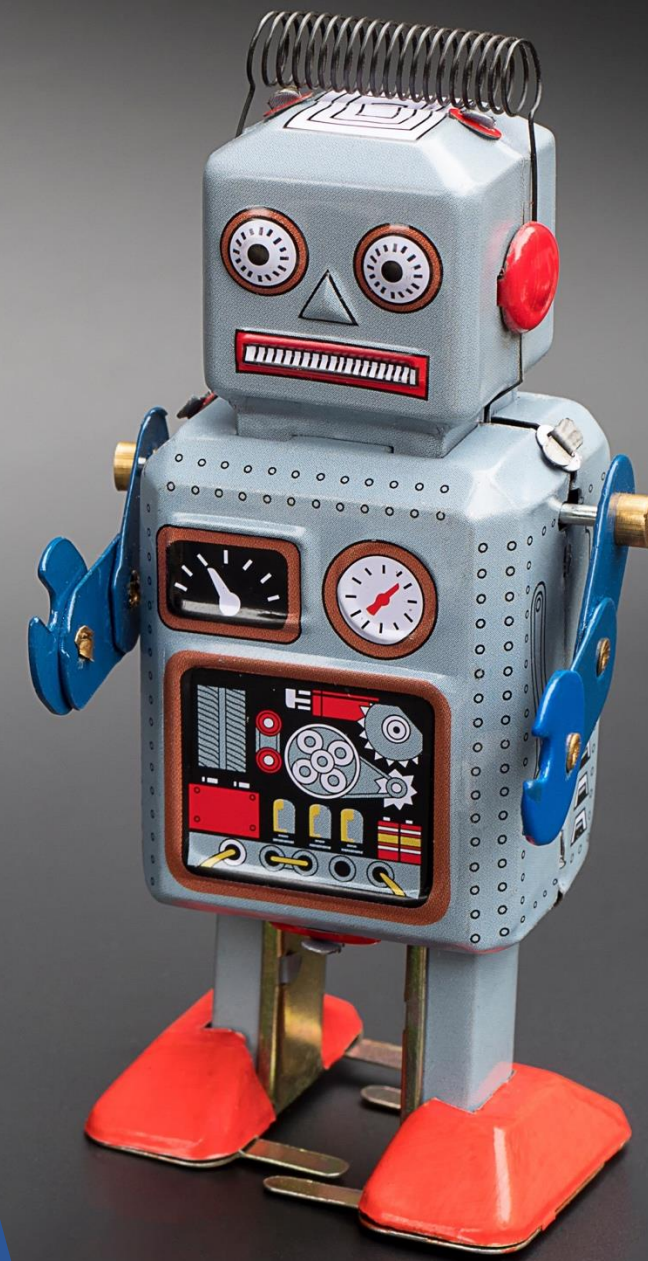
AI TRUMP vs KAMALA Debate CHAT INTERACTION Make your own: 71 31:54:51

AtheneGPT.ai (Restream & React Allowed) Just Chatting

<https://www.twitch.tv/trumporkamala2024>



# Politiiline kommunikatsioon



[https://www.youtube.com/watch?v=JFS\\_EUp3KeY](https://www.youtube.com/watch?v=JFS_EUp3KeY)



#7

Kokkuvõte

## #7 Kokkuvõte

- Süvavõltsingutel on palju kasutusvõimalusi, sh uudseid
- Tõlgenduspaindlikkus
- Mitmetahuline kultuurimõju, puudutab pea iga eluvaldkonda
- Meedias kajastatakse peamiselt hirme ja negatiivseid aspekte







Suur tänu!

<https://auli.viidalepp.org>

Viidalepp, Auli 2024. Infomõjutus ja tehisintellekt. — Semiootiline lähenemine väärinfole ja infomõjutustegevusele (FLSE.00.346), 13. november 2024. doi:10.5281/zenodo.14133836

AULI VIIDALEPP

The Expected AI as a Sociocultural Construct and its Impact on the Discourse on Technology

