



Federal Ministry
of Research, Technology
and Space



RheinMain University
of Applied Sciences

EVALUATING AI EDITING ALGORITHMS FOR VIDEO NEWS REPORTING

*Caspian J. Moosburner, Dennis Quandt,
Matthias Kowald, Wolfgang Ruppel,
Till Dannewald & Matthias Narroschke*

Caspian J. Moosburner, RheinMain University of Applied Sciences
caspianjade.moosburner@hs-rm.de

23/06/2025



CJ Moosburner

(they/them)

- B. A. Media: Conception & Production (2022)
- M. A. Screen Arts (2024)
- Jobs in Publishing, Content Creation, Social Media Management
- Currently: Res. Assoc. at RheinMain University, Project „KIGVI“
- Freelance Photography & Videography
- Empathy & Film
- Diversity in Media
- Gender Biases, specifically in Audience Reception

GENERAL

What is KIGVI?

Automated AI-based Composition of Video Reports

Development and testing of a video editing algorithm

- Edited videos receive a human voiceover
- Topics covered are:
 - Politics
 - Traffic News
 - Local News

Survey Stats

- Jan. 4th - February 13th 2025
- ~ 15 min. online survey
- $n = 143$ (survey wave 1)
- RheinMain area inhabitants
- 50.4% of participants identified as female
- 40.6% passed A-levels / a university degree, 25.4% finished vocational training

Age Range	Number of Participants (%)
16-22	< 6
22-25	10,8
26-30	10,1
31-35	13,7
36-40	< 6
41-50	22,3
51-60	12,2
61-70	15,8
71+	< 5

SURVEY PROTOCOL

Screen Out

- Non-RheinMain Area residents
- Objection to Personal Data Collection

Introduction & General Question on News Reception

- Opinion on current news presentation & news habits
- Opinion on “Editing Style”

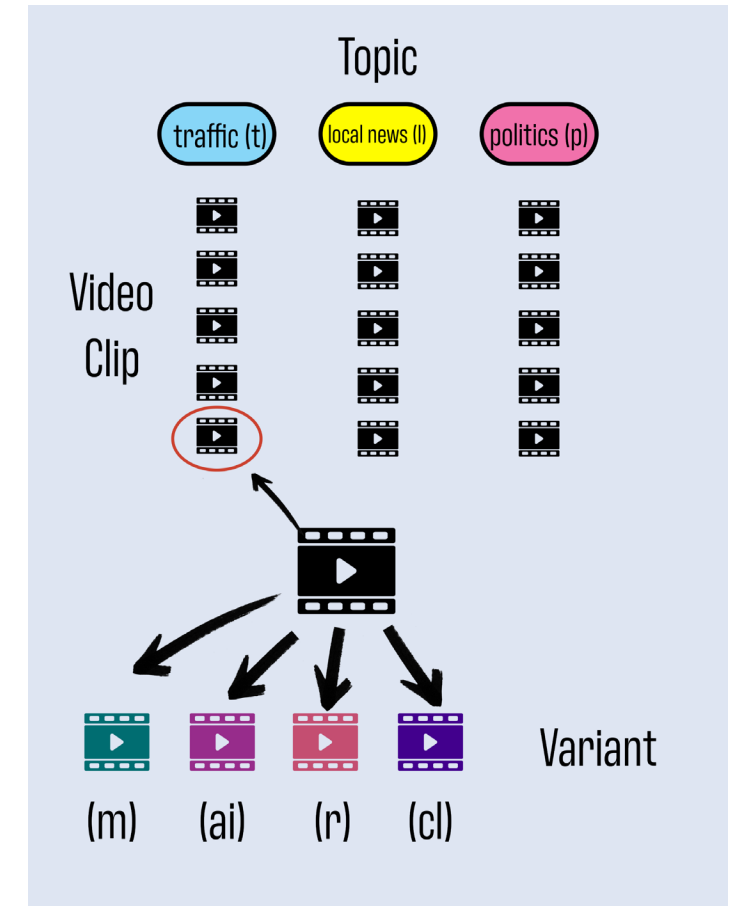
AI and AI reception

- Previous interactions with any form of AI
- Opinions of social environment towards AI
- Evaluation of common ideas associated with AI

Video Experiment

Sociodemographics

- Age
- Gender Identity
- Highest Degree & Current Work Situation



EDITING ALGORITHMS

KIGVI, CLIP & Random

KIGVI

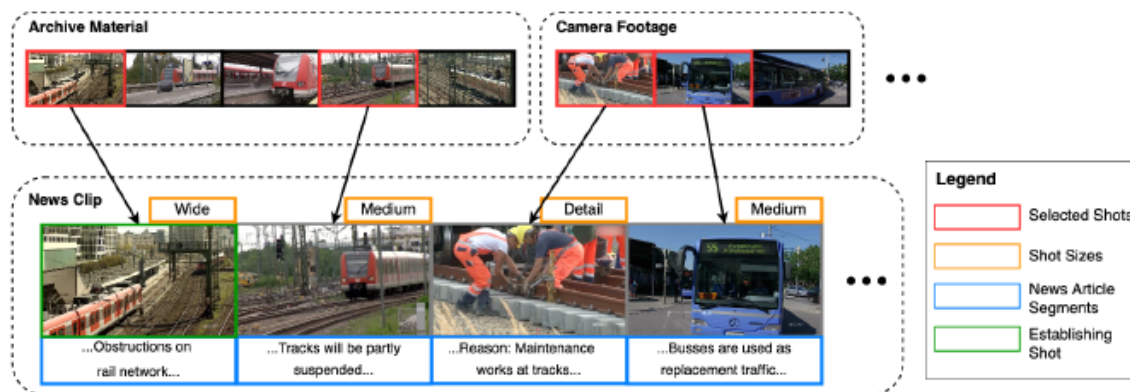
- Video Editing Algorithm using “shot-detection”
- Follows basic Video Editing principles
- Trained on 12354 news clips
- Clips ranged from 30 sec. to 5 min.
- Clips were from the years 2012-2023

CLIP

- Already existing Algorithm
- Utilises Metadata like e.g. geo-location to pair text and images
- Trained on ~15 Million Instagram pictures and captions
- Adapted for video editing

RANDOM

- No application of any algorithm or editing guidelines
- Clips don't necessarily match the overall video topic
- Low Anchor value (as opposed to Human Edit as High Anchor value)



An edit by an industry professional served as a high anchor and supplied the human variant

CHOICE EXPERIMENT

Who would you pick as the creator of the video you just watched?

- Human
- AI
- Unsure

Ideal Outcome:



human



machine



unsure



RESULTS I

Variant Identification

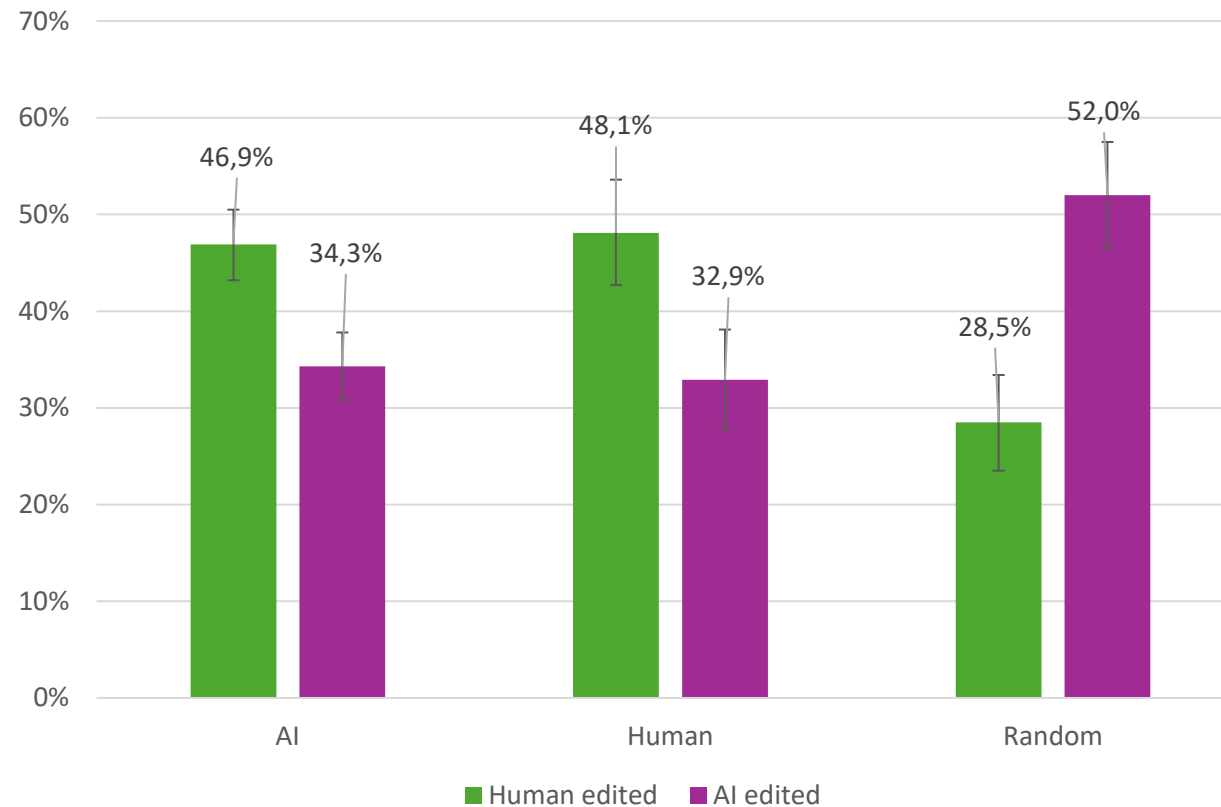


Fig. 1. Percentage of survey participants voting either "human edited" (green) or "AI edited" (purple) for each editing variant, with a 95% confidence interval.

RESULTS II

Gender Distribution

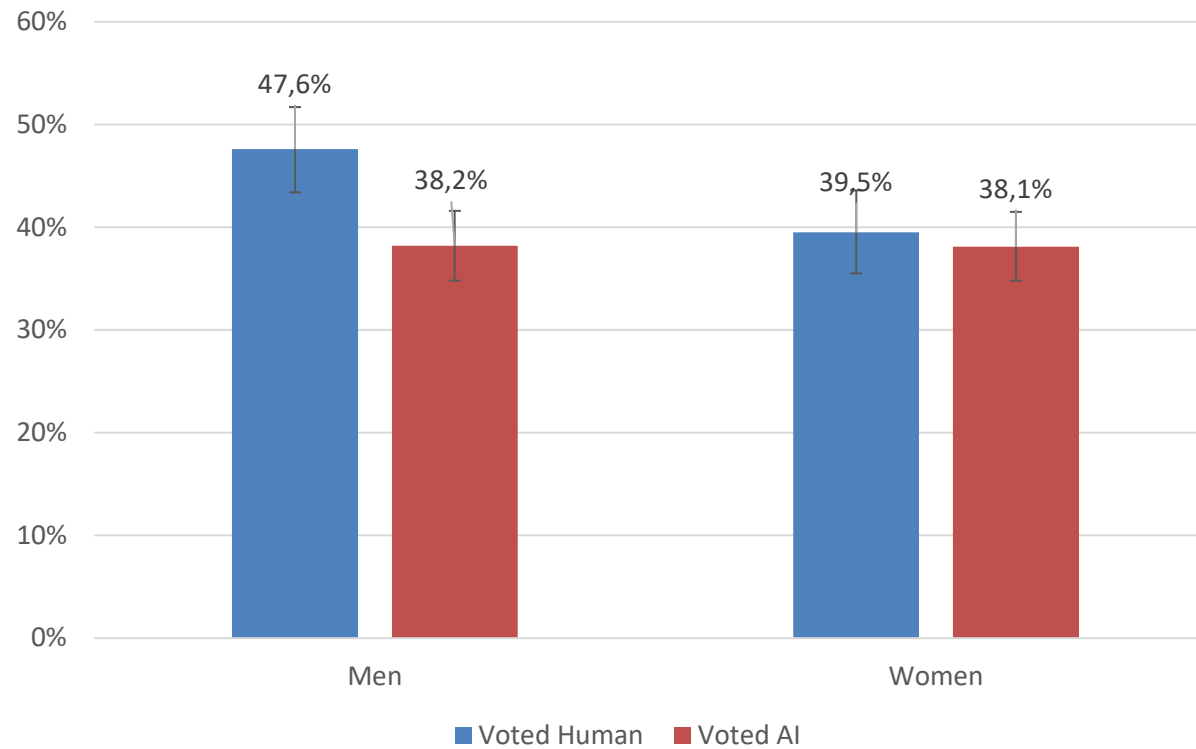


Fig. 2. Percentage of voting for “Human-edited” and “AI-edited” versus the gender of the participants, with a 95% confidence interval.

RESULTS III

Attitudes towards AI & Voting Behaviour

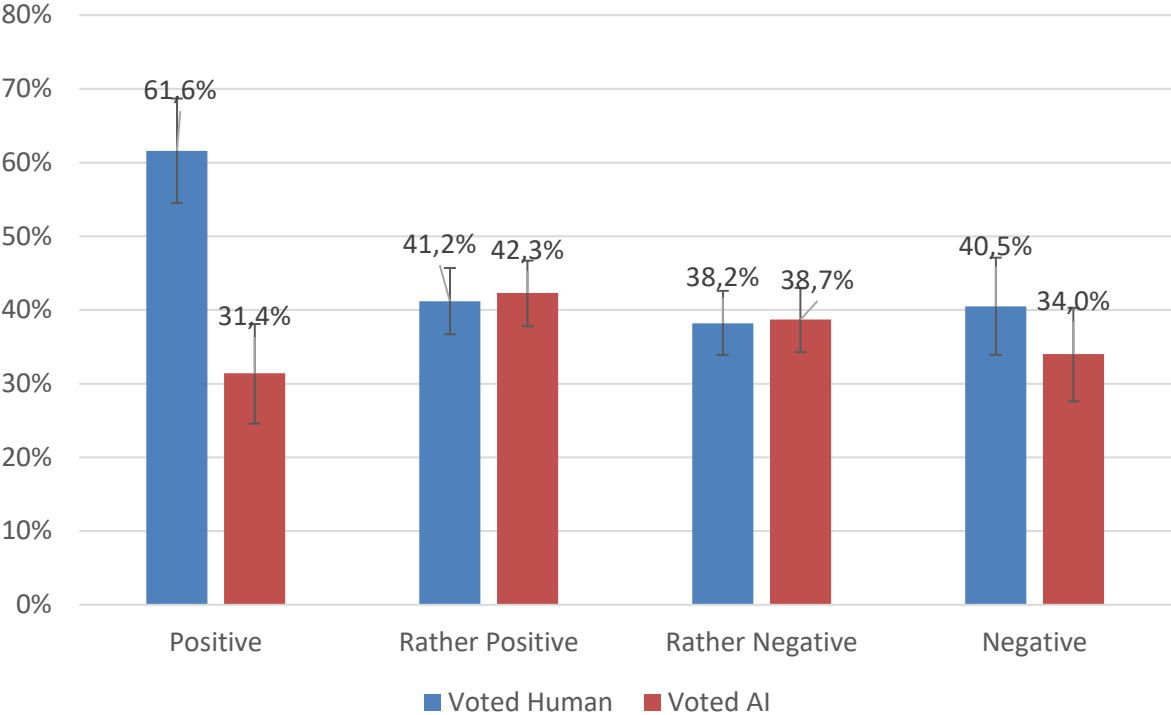


Fig. 3. Attitude of the survey participants towards AI usage in media spaces and voting behaviour, with a 95% confidence interval.

Opinion towards AI	Number of Answers (%)
Positive	13,6
Rather Positive	34,6
Rather Negative	36,0
Negative	15,8

Table I. Opinions towards AI in Media in Percentage.

RESULTS IIII

Statement Matrix

Number	Statement
(1)	The voiceover matches the visual material
(2)	The scenes in the video illustrate all the important information in the program
(3)	The video looks professionally edited
(4)	The video is similar to video news I've seen before
(5)	Aspects of the report seem inconsistent / incorrect
(6)	I will probably remember the video report
(7)	The video makes the report more interesting to me
(8)	The report triggers emotion in me

Table II. Statements being judged by a Participant on a Likert-Scale to assess the Quality of a News Video Clip.

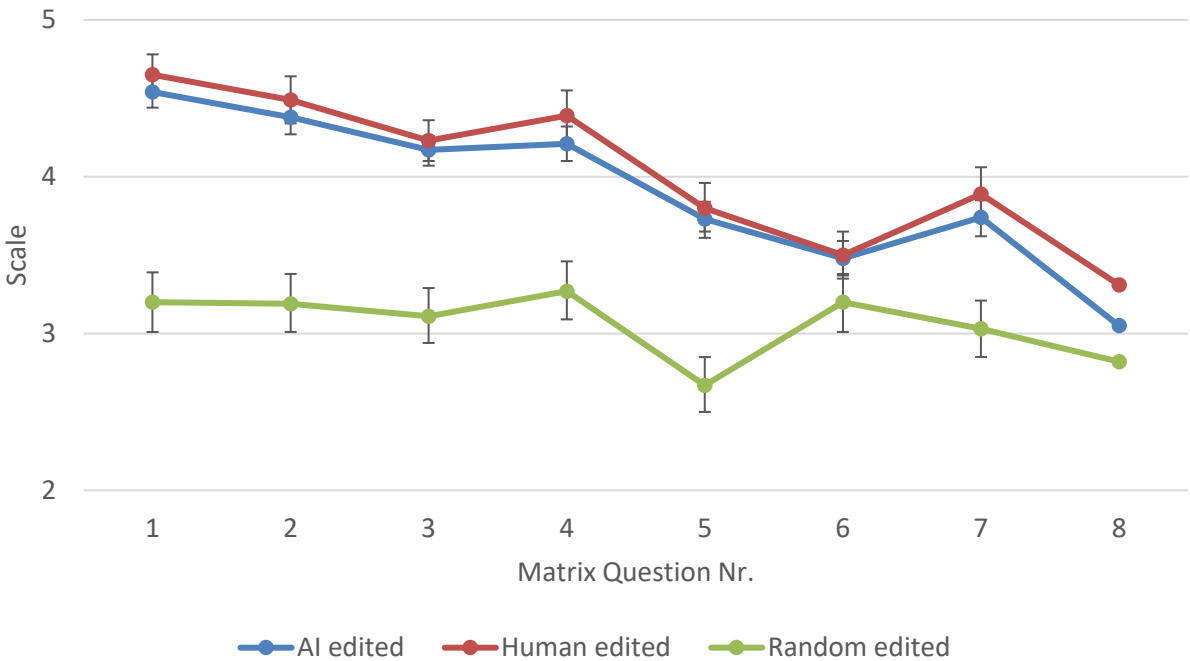


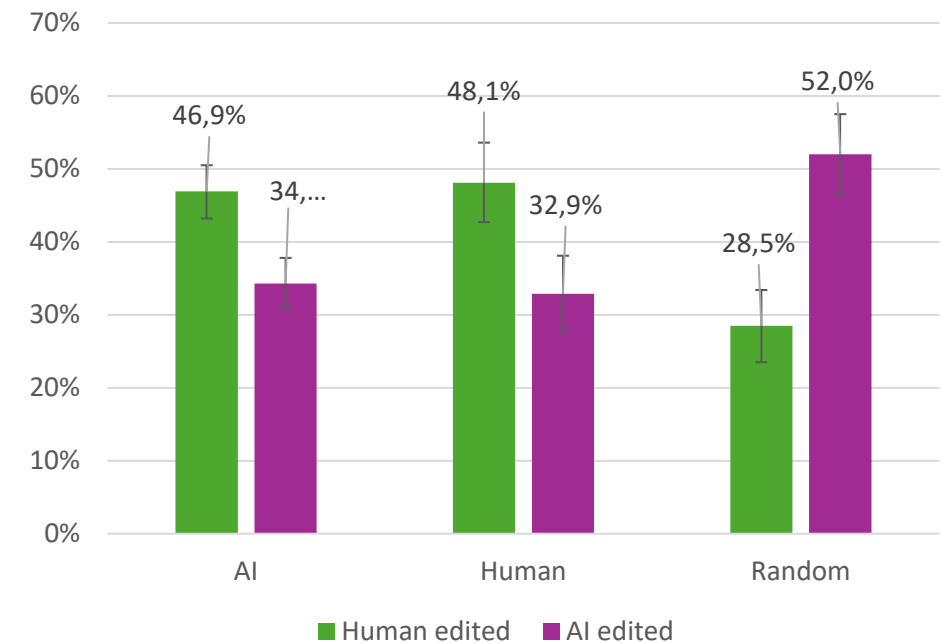
Fig. 4. Average Scores on a Likert-Scale versus Judged Statement of Table II, with a 95% confidence interval.

LIMITATIONS

- Localisation of Data (RheinMain area)
- Fig. 2 & 3 do not account for “correct” identification of the video editors
- Clip and KIGVI algorithm were combined in the presented results, resulting in a higher probability for an AI edit to be shown to the viewer
- “Unsure” option allowed users to avoid selecting a definitive editor
- News Habits are not yet connected to the presented data → potential for future publications

CONCLUSION

- AI and Human edits score very similar
- Human Edit received the AI label as well → users struggle distinguishing AI and Human work
- Low scoring random anchor points towards faithful responses
- First results could mean an Algorithm is capable of performing the task of video editing as well as a human can



OUTLOOK

- Data collection is ongoing
- Wider geographical area
- Clip & KIGVI algorithm will be compared in detail in the future
- **Attitudes towards AI**: a second survey wave is in the field
comparing video scoring when videos are tagged as AI-edited vs.
Human edited
- A second practice partner is employing the KIGVI algorithm to edit
video news in English as opposed to the German clips utilised so
far



RheinMain University
of Applied Sciences



Federal Ministry
of Research, Technology
and Space

QUESTIONS?

CJ Moosburner, M. A.

caspianjade.moosburner@hs-rm.de

Research Associate, Project “KIGVI”

Acknowledgement

The authors thank the German Federal Ministry of Research, Technology and Space, and Qvest GmbH for funding this work via the program FH-Kooperativ 2-2019, contract number 13FH544KX9 and express their sincere appreciation to Studio2010 GmbH & Co KG, and to CNA AI Strategy & Solutions Team, Mediacorp Pte Ltd. for their support.

SOURCES

1. N. Newman, “Journalism, media and technology trends and predictions 2023,” Reuters Institute for the Study of Journalism.
<https://doi.org/10.5287/bodleian:NokooZeEP> [retrieved: 2025-06-18]
2. Y. Hayashi, “Prospects for Revolutionary and Popular AI Technology following the Launch of ChatGPT in 2023,” *Electronics*, 13(2), 290, pp. 1–2.
<https://doi.org/10.3390/electronics13020290> [retrieved: 2025-06-18]
3. J. O. Adigun et al., “Enhancing Academic Performance with AI-Powered Tools: A Comparative Study of Adobe Photoshop and Lightroom in Educational Technology Photography,” *Journal of Science Research and Reviews*, 1(1), pp. 43–48. <http://dx.doi.org/10.70882/josrar.2024.v1i1.9> [retrieved: 2025-06-18]
4. Free online AI image Generator. (n.d.). Canva. <https://www.canva.com/ai-image-generator/> [retrieved: 2025-06-18]
5. E. Theophilou et al., “AI and narrative scripts to educate adolescents about social media algorithms: insights about AI overdependence, trust and awareness,” In *European Conference on Technology Enhanced Learning*, pp. 415–429. Cham: Springer Nature Switzerland. http://dx.doi.org/10.1007/978-3-031-42682-7_28 [retrieved: 2025-06-18]
6. D. Quandt, P. Altmeyer, W. Ruppel, and M. Narroschke, “Automatic Text-based Clip Composition for Video News,” In *Proceedings of the 2024 9th International Conference on Multimedia and Image Processing (ICMIP '24)*. Association for Computing Machinery, New York, NY, USA, pp. 106–112.
<https://doi.org/10.1145/3665026.3665042> [retrieved: 2025-06-18]
7. A. Radford et al., “ Learning Transferable Visual Models from Natural Language Supervision,” In *Proceedings of the 38th International Conference on Machine Learning*, in *Proceedings of Machine Learning Research* 139, pp. 8748–8763, Available from <https://proceedings.mlr.press/v139/radford21a.html> [retrieved: 2025-06-18]
8. J. Park, C. Oh, and H. Y. Kim, “AI vs. human-generated content and accounts on Instagram: User preferences, evaluations, and ethical considerations,” *Technology in Society*, 79, 102705, pp. 10–11. <http://dx.doi.org/10.1016/j.techsoc.2024.102705> [retrieved: 2025-06-18]

APPENDIX

ASSOCIATIONS WITH AI AS PRESENTED IN THE SURVEY

Pro

- Replace workforce (save money/time)
- New ideas
- Easier access to the media landscape for non-professionals
- Potentially: higher quality products

Con

- Replace workforce (more competitive job market)
- Plagiarism or lack of scientific proof
- Reproduction of biases
- Negative environmental influences
- Pushing “traditional” media out of online or offline spaces

EXAMPLE CLIPS



KIGVI Edit



Human Edit