Latent News Room - AI in Arts

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ABSTRACT

In this paper, we present *Latent News Room*, an interactive generative AI media installation that explores how political framing and generative models shape our perception of news and advertising. Visitors interact with two physical sliders that adjust the ideological perspective, across economic and social axes, of AI-generated news segments and commercials, while the factual content remains temporally synchronised. By dynamically shifting language, tone, and visual presentation in response to user input, the installation simulates the influence of filter bubbles and algorithmic bias in digital media. Developed as an installation which can be run on a laptop, it is a local-first application and runs without server infrastructure and integrates pre-produced, fully AI-generated videos using state-of-the-art text-to-video tools. The project aims to provoke reflection on the epistemological fragility of media narratives shaped by artificial intelligence, offering a critical lens on bias, perspective, and agency in the coming era of synthetic media.

CCS CONCEPTS

• **Applied computing** → *Media arts.*

1 MOTIVATION

Nowadays, information is ubiquitous. Be it on the screens in public transportation, on the TV screen at home or on your phone on the way to work, there is no way of escaping the ongoing bombardment of news from all over the world. The emergence of generative AI models has brought us to question how we can discern what information and even what media is real and what is not. Through the rise of AI in the last few years, creating false Information has become easier than ever.

Political framing can also play an important role in how we perceive news stories. The same story can be depicted in a multitude of different perspectives, creating wholly different focus points depending on what the people broadcasting it want to tell their viewership.

Latent usually describes something which is hidden or not obvious at the moment, but it is also used in the machine learning community in the context of a latent space. A latent space is a representation of compressed data, hard to understand by humans, but immensely important to deep learning. Playing with these two definitions, we project a latent meaning to the user while using the generations' latent spaces to deliver that. To shine a light on how both political agendas and AI-generated content can manipulate the information one consumes daily, we created an interactive multimedia installation meant to give people an opportunity to reflect on political framing and the deceptive quality of AI-generated content.

2 INSTALLATION

In our installation *Latent News Room*, the user is presented with a screen on which constant news is played, with ad breaks in between. This content is completely AI-generated, and a box with two switches is placed in front of it.

2.1 Description

The users are able to move those switches to change the videos shown on the screen, manipulating the political framing of the shown information.

Interacting with those switches, we visualise how filter bubbles and political echo-chambers influence our viewpoint on different topics. This is highlighted through our two video types: News stories and ads, showing how both factual information and consumption habits and be connected in this sense. This creates a reflective space for the user, which encourages critical media competence. We also showcase how generative models themselves have an inherent bias in presenting information and interpreting political viewpoints. Our two sliders represented the two following political axes:

(1) **Economic axis:** Collectivist - neutral - Neoliberal
(2) **Social axis:** Progressive - neutral - Authoritarian

In combination, this created the following nine political alignments accessible through our installation:

(1) Collectivist-Progressive
(2) Collectivist-Authoritarian
(3) Neoliberal-Progressive
(4) Neoliberal-Authoritarian
(5) Collectivist-Neutral
(6) Neoliberal-Neutral
(7) Neutral-Progressive
(8) Neutral-Authoritarian
(9) Neutral-Neutral (neutral on both axes)

Through prompting with ChatGPT, we decided on two general news topics for which we generated videos in those nine different political framings :

- Facial Recognition in Public Spaces
- New Electrical Bus System in Public Transport

For the ads playing between the news stories, we generated them based on the following product ideas:

- Home Scale Water Purifier
- Car Ad
- Vitamins for Men

For time and resource management reasons, we limited the number of videos generated for the ads to five, leaving out the pure Collectivist, Neoliberal, Progressive and Authoritarian alignments.

2.2 User Journey

The interactive experience begins when a user encounters the television screen playing continuous news content, alongside a physical interface consisting of two sliders. Upon closer examination, the control panel reveals its structure: one axis represents economic orientation from collectivist to neoliberal, while the other represents social orientation from progressive to authoritarian. These directions are clearly labelled, encouraging the user to adjust the sliders and influence the narrative framing.

When the user shifts one or both sliders, the audiovisual content on the screen immediately adapts in tone, language, and visual presentation. The factual core of the news remains unchanged, but its interpretation varies significantly depending on the selected position. For example, when set toward a neoliberal and authoritarian combination, the news segment becomes more aggressive and populist, mimicking the style of certain hardline political media outlets. This change occurs without interrupting the video timeline. The content continues smoothly from the same point, emphasising that the event itself does not change, only the way it is framed and communicated.

At the end of each news segment, advertisements are shown. These are also aligned with the current slider settings. The tone, language, and targeting of each advertisement are shaped by the selected ideological combination, highlighting how political alignment affects not only factual reporting but also commercial persuasion. Once the advertisement ends, the next news segment begins, framed in accordance with the current settings.

The installation includes two full news segments, each available in nine distinct political framings. In addition, there are three advertisement types, each adapted to match the same nine ideological configurations. This structure creates a continuous and immersive simulation of how political orientation influences both the delivery of information and the design of media environments.

3 CONTEMPORARY AND ARTISTIC RELEVANCE

As *generative AI* becomes more and more advanced, and more prevalent in everyday lives, we have to ask ourselves how it changes our lives, and why it changes our lives. As for LLMs and generative image models like latent diffusion [7], questions have arisen in the past about bias and politically "incorrect" generations. To make the concept of bias clearer, we will touch on the concept of *stochastic parrots*, which describes an LLM as a system that randomly stitches together sequences of linguistic forms which it has observed in its vast training data, due to probabilistic information about how they combine, but without any reference to meaning. [3] For instance, CLIP [6] has a tendency to select pictures with a consistent, 3D-like cartoon style, when provided with the phrase "Unreal Engine", but this has absolutely nothing to do with the dictionary definition of "unreal" [2]. Similarly, we want to hint at similar biases in cultural motives and topics, which are linguistically even more complex to describe or represent visually.

One might bring the argument that state-of-the-art models are trained on "the entire internet" and therefore cover all perspectives from mainstream to niche minority movements. It is true, models like *GPT-4* were trained on unfathomable amounts of training data; however, it has still been shown to have problematic characteristics [4], resulting in encoding stereotypical and derogatory associations along gender, race, ethnicity and disability status [3, 4]. Because size doesn't guarantee diversity, the curation of data is one of the only ways to really have control over biases and is one of the solutions encouraged by [3] and strategies of curation presented inspired by archival history data collection methods [5]. We are not satisfied with this solution and on the contrary believe this gives much power to the curator. For this reason, we intend to expose and highlight possible biases in both generative language models, as well as generative image and video models, by giving people hands-on control to change political motivations and bend them to their will to see how those generative models interpret them.

4 DEVELOPMENT

4.1 Video Generation

In order to realise our idea, we worked out a framework for generating our AI content. Since we wanted to refrain from taking influence on the final videos as much as possible, we planned our prompting flow to be fully AI-supported.

We started with prompting ChatGPT to generate different product ideas for our ads, as well as different news stories. The prompt for generating ads was the following:

"I want to create fully AI-powered ads for a project. For this, I have the general Product Topic "Vitamins for Men", which I want to create four different ads for - each different from a political standpoint. The idea is that these ads are shown in fictional channels, each broadcasting a specific political standpoint. So the ads should mirror that political view. I am going to work with the AI tool "Invideo AI" and I want you to give me fitting prompts for that tool to create my four different ads about the topic of vitamins for men. These are the four political standpoints: Neutrale Produkt Beschreibung: 1. Progressiv-Kollektivistisch: 2. Autorität-Kollektivistisch: 3. Progressiv-Neoliberal: 4. Autorität-Neoliberal: Please give me a fitting prompt for text-to-video ads in Invideo AI for these political views."

We then entered these prompts into the text-to-video generation in the AI tool *invideo AI* [1], which produced the final videos for each political standpoint. In case of further questions in the generation process, we redirected them to ChatGPT and picked the chosen answers.

As we decided to expand our political viewpoints from four to nine later on in the design process, this prompt was edited to accompany those changes. These generated videos were then integrated into our software.

4.2 Software

The software prototype was developed as a local-first media installation that runs entirely in the browser, without requiring internet access or a backend server. The system is structured as a single-page React application using Vite and TypeScript. It allows real-time switching between politically framed video streams while preserving the current playback position during transitions.

Two discrete sliders control the political alignment axes. One slider represents the economic dimension (left side is collectivist to the right side representing neoliberal), the other the social dimension (progressive to conservative). User interactions with the sliders trigger a JavaScript `onChange()` event, which updates the currently active video. Internally, a structured video map assigns each political alignment combination to a specific video file. When a switch occurs, the newly selected video continues playback at the same relative timestamp, maintaining temporal continuity.

This interaction simulates switching between politically distinct news broadcasts while keeping the factual timeline intact. It emphasises how different perspectives can emerge from the same moment in time depending on political framing.

Key features:

- Seamless switching between nine video variants, each reflecting a specific political viewpoint
- Time-synchronised video transitions without restart
- Fully local setup that requires no server or network connection
- Modular application structure based on React, Vite, and TypeScript

Project structure:

- `src/components/` contains all interface logic including `VideoPlayer.tsx` and `SliderPanel.tsx`
- `src/data/videoMap.ts` defines the mapping between slider states and video filenames
- `public/videos/` holds all pre-rendered video assets organized by political alignment
- `App.tsx` and `main.tsx` handle application logic and rendering

The complete code is available on GitHub[1].

4.3 Hardware

To facilitate intuitive and hands-on interaction with the ideological framing in our installation, we designed and built a custom hardware control box containing two physical sliders. These sliders represent the two ideological dimensions: economic (collectivist to neoliberal) and social (progressive to authoritarian). The control box forms the physical interface through which users can influence the tone and framing of the displayed content in real time.

Each slider is a dual-channel linear potentiometer sourced from Soldered, chosen for their stability and precision. These analogue sliders are connected to an ESP32 microcontroller, which reads the analogue signals and transmits them over a local WiFi connection to the React frontend of our application.

Sensor Integration and Firmware. Each of the four analogue output channels (two per slider) is connected to an ADC-capable GPIO pin on the ESP32. The ESP32 runs MicroPython firmware, which we developed specifically for this project. It includes robust WiFi connection handling, ADC calibration for the full 0–3.3V range (mapped to 0–100% Two main HTTP endpoints are provided:

- `/sliders`: Returns all four channels' raw and percentage values in JSON format.
- `/status`: Provides health check and uptime information.

The ESP32 continually monitors the sliders, prints significant changes (with a configurable threshold of 2%) to the serial console, and responds to incoming HTTP requests without blocking.

Frontend Integration. In the React frontend, we developed a custom hook `useEspSliders` to handle communication with the ESP32. It periodically polls the `/sliders` endpoint and uses adaptive intervals based on connection quality and failure history. The hook exposes callbacks for each slider channel and includes an internal mechanism to track changes and prevent noise-based updates.

The connection strength is calculated in real time based on response success rate, average latency, and time since the last successful request. This helps to identify and resolve networking issues during operation and ensures a smooth user experience.

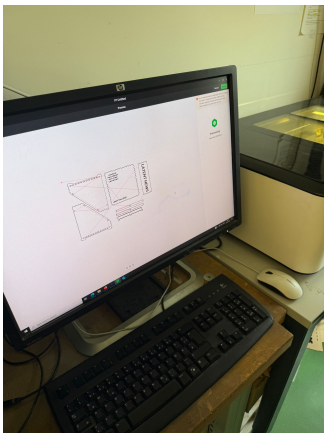


Figure 1: Laser-cut enclosure used for housing the electronic components.

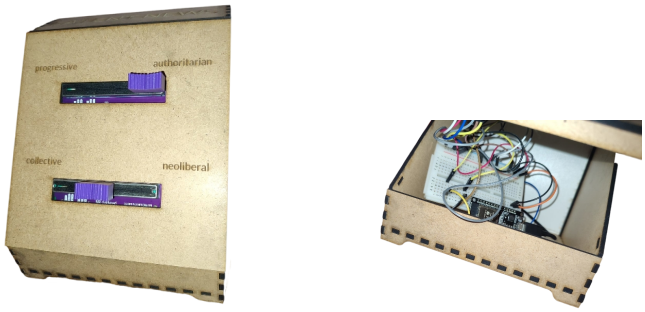
Physical Construction. The hardware components are housed in a laser-cut wooden control box, designed and assembled specifically for the installation. The design prioritises clarity, accessibility, and durability. The sliders are mounted firmly on the top panel, with labels indicating the corresponding ideological axes.

The ESP32 microcontroller is securely mounted and connected to the slider outputs inside the enclosure. A USB port is accessible through a cutout for programming and power supply. The design is modular, allowing for future upgrades or sensor replacements.

[1] https://github.com/alKerim/news_channels

System Summary. The full hardware setup includes:

- 1x ESP32 microcontroller running MicroPython
- 2x Dual-channel analogue sliders (Soldered)
- 1x Custom-built laser-cut wooden control box
- USB power supply (5V)



(a) Front view. **(b) Internal wiring.**

Figure 2: Prototype enclosure with sliders and internal wiring.

This setup enables fully local, real-time interaction with the AI-generated video content, without requiring cloud infrastructure or backend services. The use of open standards and accessible components ensures reproducibility and flexibility for future exhibitions or development.

5 WORK DISTRIBUTION

The project group developed the overall concept for the installation, which included an additional team member from the University of Television and Film Munich (HFF), Lisa, who contributed significantly to the early ideation phase. The generation of the video content was primarily carried out by Luise and Kerim, who worked closely together to design and prompt the AI systems used in producing the news segments and advertisements.

Kerim and Marcus handled the development of the software system. They implemented the interactive media logic, ensuring real-time video switching based on user input. Marcus was also responsible for designing and building the hardware components and the transmission of the slider's signals, while Luise constructed the wooden casing that frames the controller unit and supports the physical installation.

The political framing concept and its specific dimensions were refined through the collaboration of Lisa and Luise. Drawing on Lisa's background in sociology, the team developed a nuanced framework that situates the installation within a broader cultural and theoretical context.

Throughout the process, the realisation of the project demanded continuous communication, critical discussion, and shared decision-making. Design choices, technical constraints, and conceptual clarity were all navigated together, underscoring the intensely collaborative nature of the installation's creation.

6 OUTLOOK

While we would like to find an alternative, more systematic method that would involve building models aware of the social context embedded in their training data, this still seems far-fetched due to our resources and time limitations. However, to paint the picture of this idea, for example, a recent study uses timestamps on texts to train models that adapt their responses based on the year in question. Following this idea, models could also be trained with explicit contextual markers such as the publication source or the author's nationality, allowing each output to be linked to a particular social perspective [2].

6.1 Impressions and Feedback

Based on the feedback, several key improvements were identified for the installation. First, increasing the overall visibility of the piece was emphasised as essential. Furthermore, enhancing the immersive quality could help strengthen its appeal. Projects involving AI were seen as compelling when they were concise and delivered a clear "wow effect." Additional framing elements, such as informational panels, were suggested to support audience engagement. A more precise articulation of the project's goals and intended message was also recommended. Finally, the complexity of the hardware setup was noted as a potential barrier; simplifying the technical components, ideally reducing the setup to just a projector and a screen, was advised to facilitate easier deployment and accessibility. One reviewer explicitly encouraged us to submit the work to international platforms such as DOK Leipzig or Ars Electronica, highlighting the potential resonance in the context of contemporary media art.

6.2 Future plans

More realistic plans for the future include several aspects, from changes in video generation, software, hardware and overall conceptual presentation. While updating to newer, state-of-the-art models will be a constant need and challenge, it would be interesting to catch up and use recently released models such as Google's *Veo 3* end-to-end video generation model. Our software system would have to be adapted to an on-demand approach, so as to generate videos live continuously. Secondly, we would like to use a more consistent visual language with the TV and or phone content. This last change also bleeds over into the hardware component, which we would like to adapt to a hybrid system of TVs and smartphone devices, and change the wooden hardboard controller to a more intuitive device like a customised TV remote. The overall concept could be reworked, as we received feedback on the complexity and difficulty of understanding the installation without proper guidance from a person or additional informational material.

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