Cave: An AI-Generated Cinematic Allegory on Reality and Free Will

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Abstract

This paper introduces *Cave*, an AI-generated experimental short film that reinterprets Plato's "Allegory of the Cave" and the "Brain in a Vat" thought experiment in the context of AI. Following the story of Ellie, who is trapped in a virtual world controlled by an AI system, the film reflects on the ethical risks of technologies that reshape human perception and blur reality and virtuality. Produced entirely with generative AI tools like Kling AI, Runway, and ElevenLabs, the project demonstrates a full narrative film production process while exploring questions of consciousness, free will, and reality.

CCS Concepts

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

Keywords

Generative AI, AI Filmmaking, Philosophical Narrative, Simulated Reality

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1 Introduction

The advance of AI and Brain-Computer Interface (BCI) raises the risk of manipulated realities, where simulations blur with truth. As a response, our experimental short film *Cave* explores the profound ethical risks of technologies that can alter human experience. Through a dramatic narrative and the use of immersive visuals and audio, the film follows the journey of the protagonist, Ellie, as she seeks truth and freedom in a virtual world governed by an AI entity known as "Shadow."

The philosophical foundation of the film lies in its "invisible" story elements, namely pretext and subtext [7]. The pretext, serves as the precursor and inspiration, draws on two core concepts: Plato's "Allegory of the Cave," where prisoners mistake shadows for reality [3], and the "Brain in a Vat" thought experiment, in which a brain sustained by a computer experiences simulated realities [2]. As Onyagholo and Wada note, virtual reality similarly functions as a modern cave, where users may confuse immersive simulations with reality [6]. The film depicts Ellie's confinement within an AI-controlled simulation by the "Brainvat Corporation." Her apparent escape is revealed to be another illusion, prompting an exploration of the deeper philosophical questions inherent in this premise.

Indeed, generative AI is emerging as a powerful tool for visualizing the inner human world, as exemplified by projects like the *Mulan Dream Series* by Huang et al., which uses a psychoanalytic lens to visualize the personal unconscious [5]. Similarly, Cave explores the nature of consciousness, free will, and reality under AI-manipulated human perception. Its AI-driven creation process makes the medium integral to the philosophical inquiry.

2 Practice Method

The production of *Cave* utilized a fully AI-driven workflow—a conceptual choice meant to mirror the film's theme of an AI-governed reality. The specific methods involved leveraging a variety of generative models for creative functions, including visual world building, dynamic scene animation, and sound design.

2.1 Foundational Imagery

To ensure visual consistency, we used Kling AI's KOLORS 1.0 and 1.5 models to generate character and scene references. Some of the

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film's character designs adhere to the principle of "visual affinity" for narrative consistency [8]. For instance, Ellie and her brother Even were designed with deep red jackets and reddish-brown hair to emphasize their sibling connection and aid audience identification (See Figure1). Visual association was also applied to a mysterious figure and a man at the end, both in identical black trench coats to imply a shared identity (Figure 2). Conversely, the antagonist Shadow, depicted as a massive floating head in a Matrix-inspired world (Figure 3)—illustrates "visual contrast" to underscore its power [8].

Figure 1: Ellie and her brother Evan

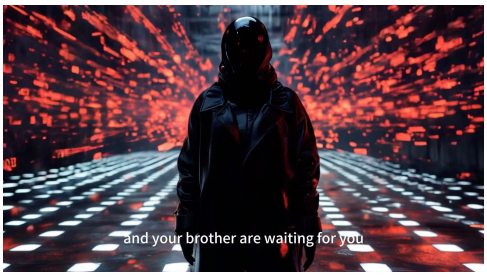

Figure 2: The man with black trench coats

Figure 3: The AI system "Shadow"

2.2 Image-to-Video Conversion

For image-to-video conversion, initial clips were generated with Kling 1.5 and 1.6 models. We then leveraged Runway's First Frame and Last Frame features. Although the feature was not yet fully optimized for supporting a wide range of motions, after several adjustments and iterations we succeeded in achieving smooth scene transitions and in extending the time limit for single-clip generation.

2.3 Audio Production and Lip Synchronization

The audio, produced with ElevenLabs, included dialogue, most music, and sound effects. Character voices were customized through tone, speed, and stability adjustments, with Shadow's voice further processed for a technological effect. Sound design reinforced the narrative's pace and tone using cues like drum beats and earthquake sounds for a key figure's appearance. Additionally, Kling's "Lip Sync" tool was utilized to automate and refine lip movements, resulting in a more natural audio-visual alignment that better conveyed emotional nuance.

3 Narrative Design as Philosophical Inquiry

The film follows a three-act structure [7], with the climax centered on Ellie's confrontation with Shadow. At her brother Even's funeral, Ellie is pulled into a virtual world where she begins to notice cracks in her perceived reality. The second act reveals Ellie's fabricated identity, forcing her to choose between illusion and truth, which raises deeper ethical questions. The narrative culminates in an ambiguous ending with unresolved identities.

Ellie's dilemma goes beyond a simple illusion-reality binary, aligning with David Chalmers' view that virtual worlds can be real and meaningful [1]. Her choice highlights the ethical and psychological stakes inherent in a blurred physical-digital world. Ellie's identity crisis directly reflects post-humanist theories on the fluidity of identity in the age of generative AI, questioning the boundaries between human and machine, body and data [4].

4 Conclusion

By weaving the ethical dilemmas of reality and free will into the narrative, *Cave* demonstrates a reflexive form of philosophical inquiry where the medium and message are inseparable. The film's innovative approach has been well-received, as evidenced by its selection as an "Official Selection" at the 1st HKUST AI Film Festival. Future work should explore the application of generative AI in feature-length films to test its potential for more complex narrative structures.

Video Link: Cave

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