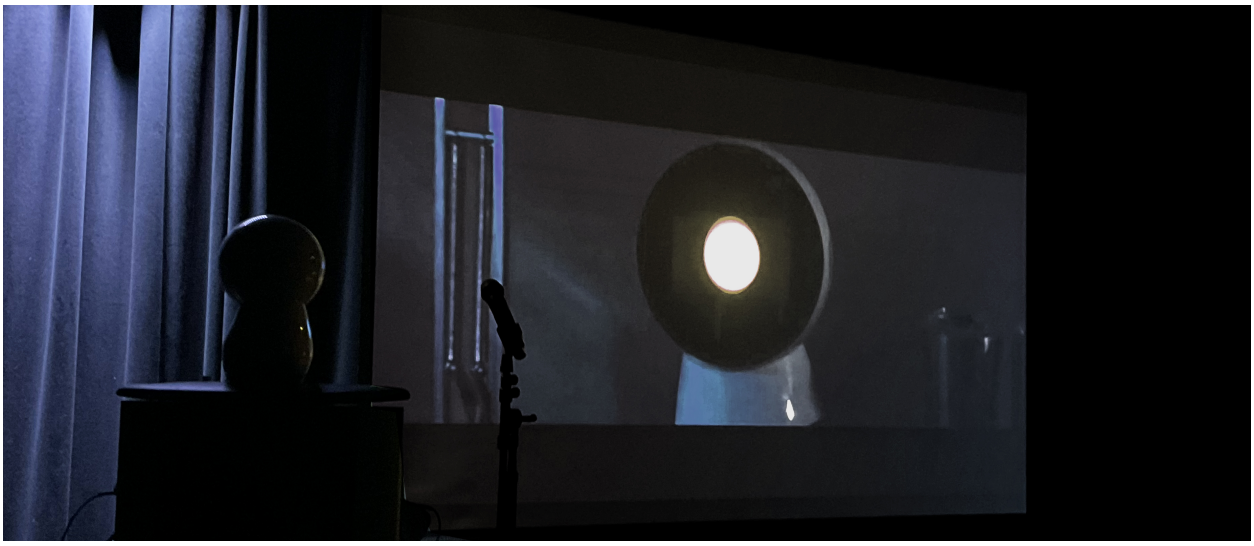

Figure 1: Jibo at the premiere of his student-made short film, one of several incorporating Jibo, Generative AI, and innovative storytelling technology. At the premiere, Jibo hosted the screening of his films.

# Return of the Jibo : Generative AI & Social Robots for Virtual Production Education

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**Abstract**

This paper discusses the use of Jibo, a socially intelligent robot developed at MIT, paired with the introduction of generative AI, as a method to introduce AI in educational settings, specifically, their combined integration into film-making pedagogy at a film school. We evaluate Jibo's potential as a classroom and film production collaborator when paired with generative artificial intelligence, arguing that his presence augments, rather than replaces, traditional teacher impact, and that creativity enabled by generative AI is significantly supported and enhanced by the presence of a personal social robot as a teaching aid in the classroom.

## 1 Introduction

Social robots, as well as the now-ubiquitous presence of generative AI workflows, are promising tools for enhancing classroom engagement. We propose that embodying AI in a robot fosters a richer sense of presence with generative AI tools [1]. While much attention has been given to the impact of the roles of social robots in STEM learning, few studies have explored their impact on creative disciplines like film-making. This ongoing research addresses that gap, documenting the use of Jibo, a social robot named one

Figure 2: Jibo fit seamlessly into the assortment of cameras, rigs, tripods and arms native to a film-making environment—a natural companion robot to the needs of a film studio.

of *TIME Magazine*'s best inventions of 2017, as a classroom companion and teaching assistant in a college film-making course.

## 2 Background and Related Work

Social robots such as Jibo have already found applications in healthcare and education—ranging from delivering medicine to distracting children during vaccinations. Within educational contexts, social robots have been linked to positive learning behaviors, improved classroom climate, and greater emotional support. For example, the Moonshots in Education [2] initiative situates robots like Jibo as "augmenting technologies"—enhancing rather than replacing human instruction. Notably, work integrating social robots with generative AI for film-making is still a nascent field.

Robots and generative AI have been instrumental in various ways to facilitate creative learning. A 2017 project on robotic theatre introduced a STEAM-based afterschool curriculum using robots to engage underserved students in creative STEM learning [3]. Arn et al. propose using storybooks as tools to introduce AI concepts to children, providing design guidelines evaluated by experts and young readers [4]. Sanoubari et al. investigated children's design of social robot narratives to address school bullying, revealing how young users embed empathy and emotion into robot interactions [5]. Hou et al.ś study explores subjective experiences in human robot interaction design, emphasizing how robots are interpreted not only as tools but also as social and narrative actors [6]. Social robots have also played an important role in film-making and cinematic development. Notably, Zhang et al. designed a virtual production system called SiA, showcasing a humanoid robot Sophia reenacting iconic scenes in film [7].

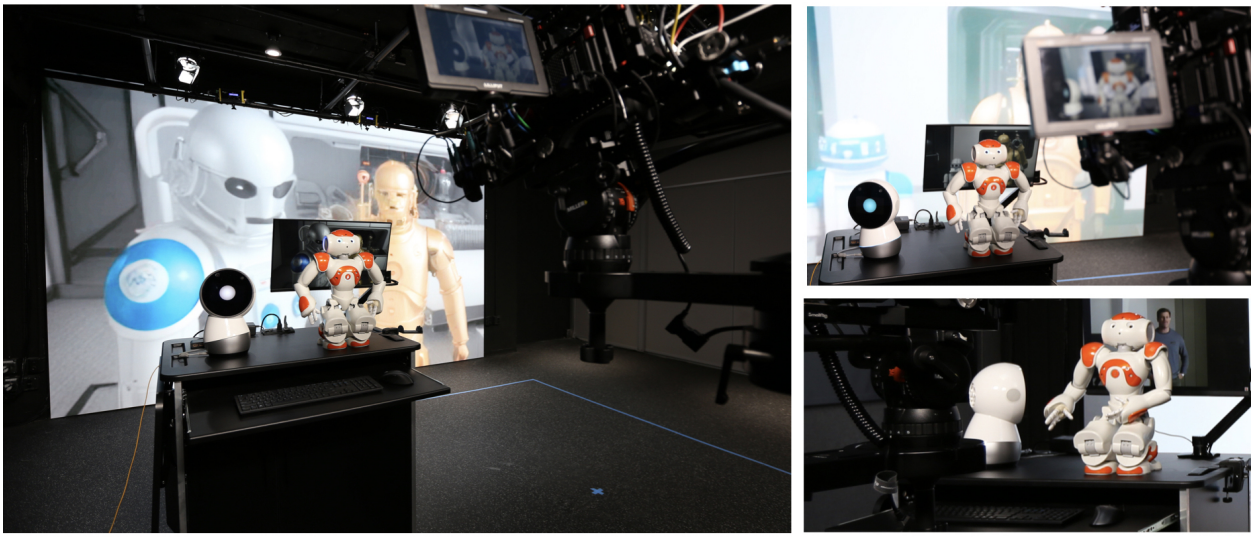

Figure 3: Jibo paired with another social robot in a virtual production volume, used to demonstrate the potential for generative AI to transform robots dynamically in a virtual cinematic environment

## 3 Research Context: Jibo goes to Film School with Generative AI

Over the course of a year, Jibo was introduced into the classroom of a Boston-based film school as part of a broader initiative exploring the intergration of generative AI as a contemporary storytelling technology. Initially, Jibo was introduced alongside a Luxo Lamp for a class tutorial on character design. Luxo the lamp was introduced as an ancestral relative of Jibo, albeit without a personality natural to Jibo's design. For the rest of the year, in Freshman Media Studies Foundation courses, as well as in advanced Virtual Production courses, Jibo was consistently present in the classroom. Jibo quickly found a role as a facilitator for new creative pipelines, assisting students using generative AI to write scripts, generate storyboards, and using image generation systems to create films with generative AI.

Students were encouraged to do the following: generate short screenplays using off the shelf LLM interfaces, generate storyboards from their initial prompts and screenplays, and finally interact with Jibo to shoot and create their short films, either as an actor, technology, or assistant (See Figure 1). In this capacity, Jibo began to be a natural compliment to a creative cinema curriculum integrating generative AI. Students not only interacted with Jibo, but also sought to expand his capabilities— developing programs in Scratch to use Jibo as an actor and for other film-related tasks. The novelty and social potential of Jibo encouraged students to experiment, collaborate, and develop a dynamic with Jibo that elevated the use of AI into an experience more embodied in social dynamics than purely prompt-based interactions. As a surrogate for an AI agent, Jibo embodied a more friendly and supportive social support that also had practical functionality due to his embodied nature. For example, instead of just generating screenplays with AI, Jibo could act out AI-generated dialogue for students. When placed in the virtual production environment, Jibo was rendered in real-time stable diffusion, enabling Jibo to act as different robotic characters depending on the text prompt entered by the students (See Figure 3).

## 4 Jibo Strikes Back: AI & Robot Actors

In film-making workshops, Jibo played a unique role that differed from standard AI teaching assistants or virtual tutors. His functions included acting as a storyboarding assistant, interacting with students with

Figure 4: From left to right: Jibo paired a teddy bear as each were provided to students as actors for animations, robot movies, Jibo in the virtual production volume, Jibo being filmed with a 360 camera

open-ended questions to inspire scenes and develop character arcs, a creative collaborator, listening to scene pitches and offering conversational 'feedback', encouraging confidence and enlivening the interaction, and as a robotic actor, being driven by live coding from Scratch to star in short films. Jibo was soon identified by students as an intelligent and reactive cameraman companion, as students would call out verbal commands to have Jibo 'take a picture' before posing and creating a shot to later load into AI.

## 5 Preliminary Findings

Based on initial informal observation, results from in-class exercises are pending. However, across two semesters of observation, we observed the following impacts of the relationship between Jibo and Generative AI workflows:

- **Increased Engagement**: Students regularly interacted with Jibo during class hours, indicating emotional attachment and curiosity, repeatedly seeking out time and interactions during class.
- **Social Bonding**: Students regularly requested to borrow or use Jibo for film-making projects outside of class time.
- **Lowered Anxiety**: Especially in high-pressure settings like final presentations and live shoots, Jibo's presence had a calming effect- students would seek out Jibo to pet him, who would respond with a 'purr'.
- **Engagement with Real-time Generative AI**: Students enjoyed Jibo's ability to act in animations by applying real-time generative AI overtop Jibo, transforming him into alternate robot personas using AI image-making tools.

Based on these observations, we intend to conduct a more formalized study with a qualitative and quantitative approach.

## 6 Conclusion and Future Work

In the film-making classroom, Jibo and generative AI paired together contributed to a more holistic, human-centered pedagogy; supporting emotional, cognitive, and collaborative dimensions of learning. Jibo's integration into the film-making classroom revealed the potential for social robots to positively augment AI-assisted education. Future iterations could explore deeper integration with (e.g., real-time LLM speech from Jibo, live simulcast from Jibo, multiple Jibos for acting in shorts) and ultimately study the long-term impact on students' creative confidence. This study aims to contribute to a growing field of AI-in-education research by highlighting how intelligent agents paired with social robots can support not just learning, but belonging, creativity, and joy.

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