

# METHOD FOR PRODUCING RENDERINGS FROM 3D MODELS USING GENERATIVE MACHINE LEARNING

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## BRIEF DESCRIPTION

Existing approaches to visualizing 3D models are capable of producing highly detailed representations of 3D scenes with precision and significant compositional control, but they also require a significant amount of time and expertise by the user to create and configure. Recent developments in generative machine learning (GML) have brought about systems that are capable of quickly producing convincing synthetic images of objects, people, landscapes, and environments, without the need for a 3D model, but these are difficult to precisely control and compose. Therefore, current methods cannot directly relate to detailed 3D models with the fidelity required for many applications, including architecture, product/industrial design, and experience design.

To address this opportunity, UC Berkeley researchers have developed a new, GML-integrated 3D modeling and visualization workflow. The workflow streamlines the visualization process by eliminating arduous and time-consuming aspects while maintaining important points of user control. The invention is tailored for the production of “semantically-guided” visualizations of 3D models by coupling the detailed compositional control offered by 3D models with the unique facility of defining visual properties of geometry using natural language. The invention allows designers to more rapidly, efficiently, and intuitively iterate on designs.

## SUGGESTED USES

- » Architecture, interior design, product design, experience design, industrial design, or any 3D-visualization
- » Computer-aided-design (CAD)
- » Visual effects (VFX) production, motion graphic design, game development, and production design for film and television

## ADVANTAGES

- » Novel accommodation of text-based prompts and image-based maps
- » Fast, user-controlled 3D visualizations

## RELATED MATERIALS

## CONTACT

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## INVENTORS

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## OTHER INFORMATION

### CATEGORIZED AS

- » **Computer**
- » Software
- » **Engineering**
- » Engineering

### RELATED CASES

2023-153-0



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