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(57) Abstract :
The invention presents an AI-Based Text-to-3D Model Generator that leverages artificial intelligence, natural language processing, and procedural 3D graphics to automatically convert natural language descriptions into structured three-dimensional models. The system interprets user-provided text or voice input by extracting semantic and geometric attributes such as object type, shape, size, color, and spatial relationships, which are then mapped to predefined geometric primitives through a rule-based mapping engine. These parameters are processed using Blender's Python API to autonomously create, transform, and render 3D objects without manual modeling. A Streamlit-based interface enables real-time input, preview, and export of generated models, while an integrated voice-assisted module supports speech input and text-to-speech feedback for improved accessibility. By significantly reducing the skill and effort required for 3D model creation, the system offers an efficient, user-friendly solution suitable for learners, designers, educators, and rapid prototyping applications, and provides a foundation for future advancements such as AI-driven mesh generation, texture synthesis, and VR/AR scene creation

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