Dataset of Simulated Cloth-Object Interactions

Overview

This dataset comprises 100 object files and 100 corresponding cloth simulations, designed to offer a realistic portrayal of cloth-object interactions. It is tailored for various recognition tasks and offers a high degree of realism in cloth physics.

Features

1. **Wide Variety of Shapes**: Our dataset includes a diverse range of object shapes, offering extensive opportunities for training and testing recognition algorithms across different scenarios.
2. **Everyday Item Focus**: The objects in this dataset represent everyday items, making it highly relevant for practical applications in object recognition and similar tasks.
3. **No Clipping Issues**: We have ensured that there is no clipping in any of the cloth or object files, providing clean and accurate data for your analysis.
4. **Realistic Cloth Physics**: The cloth simulations in this dataset have been crafted with attention to realistic physics, ensuring that the interactions and draping are as true-to-life as possible.
5. **Floor-Included Design for Realism**: Initially, objects include a floor to simulate a more realistic cloth interaction. However, for usability and clarity, the floor is removed in the final files. This ensures that the focus remains solely on the cloth and object while retaining the realistic dynamics influenced by the floor.
6. **Small File Sizes:** Despite the provided realism, the file sizes are rather small at around 600 MB for the 200 objects.

Applications

- **Recognition Tasks**: Ideal for developing and testing algorithms aimed at recognizing various shapes and objects under different cloth coverings.
- **Computer Vision Research**: Provides a rich resource for researchers in computer vision, particularly in areas focusing on depth perception.
- **Simulation and Animation**: Useful for creators in simulation and animation, offering realistic cloth dynamics for more lifelike scenes.
- **Educational Use**: An excellent tool for educational purposes, especially in courses related to computer graphics, physics simulation, and machine learning.