

Similarity-Based Algorithm for 3D Model Search

Description:

AdvertFlair, a company specializing in advertising and 3D modeling, faced challenges in repeatedly searching for images and matching them with their current 3D modeling projects. To address this issue, we developed a **Similarity-Based Algorithm** that searches and recommends similar 3D models from existing resources. This algorithm helps streamline the workflow by identifying previously built products and recommending similar ones based on image inputs, reducing redundant work and speeding up the modeling process.

Working Procedure:

1. **Input Image:**
 - The user provides an image of the product or model they are currently working on.
2. **Image Processing:**
 - The algorithm processes the input image to extract key features using advanced image recognition techniques.
3. **Search in Available Resources:**
 - The system then searches the available database of 3D models and product images stored within the company's resources. It uses these features to find relevant matches.
4. **Similarity Calculation:**
 - A similarity index is calculated for the top 20 closest matches. This is done by comparing the features of the input image with the stored models using a trained model, which ranks them based on how closely they resemble the input.
5. **Recommendation:**
 - The system returns the top 20 similar products, along with details from the associated JSON file (which contains product information). This helps the user decide whether any similar models can be reused or referenced for their current work.

This algorithm enhances the efficiency of the 3D modeling process by reducing the time spent on manual searches and allowing reuse of existing assets.