RealtyReel

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Project Description

Overview

RealtyReel is a user-friendly platform designed for property owners who seek an efficient way to create high-quality promotional videos for their listings. By simply uploading photos, videos, and accompanying descriptions, users can leverage our AI-driven system to produce polished videos complete with AI-generated voice overs, seamless transitions, and professional-grade color correction.

Problem Being Solved

RealtyReel aims to solve the time-consuming and often expensive process of creating professional-quality property listing videos. Traditional methods involve hiring videographers, editors, and voice-over artists, which can be prohibitive for smaller property owners.

RealtyReel's innovation lies in the AI algorithms that autonomously edit and assemble the media, thus offering a streamlined and cost-effective solution. The core technical advances include machine learning algorithms for video editing, natural language processing for generating voiceovers, and AI-based color grading techniques.

Why is this Important?

High-quality visual media can significantly enhance the appeal of property listings, making it easier to attract potential buyers or tenants. However, the investment required to produce such media can be a significant barrier for many property owners. By automating this process, RealtyReel democratizes access to high-quality property marketing, potentially accelerating sales and rentals, which has a broader positive economic impact.

Existing Solutions

Currently, the problem is largely solved by hiring professionals in videography and editing, or by property owners taking a DIY approach that often results in less polished content. There are also some software tools available for video editing, but they typically require a degree of skill and time investment that many property owners lack. RealtyReel offers a third option that combines the quality of professional services with the convenience and affordability of a DIY solution.

Outcome

By the end of this project we intend to have a working application that consists of an intuitive UI alongside a functional backend that is able to produce high quality videos for our users.

Tech

For this project we intend to use React for our frontend and Flask for the backend with a PostgreSQL database. The user will upload photos and videos of the property which will be interpreted by the open source multi modal LLM LLaVA. LLaVA will caption the images and Google text-to-speech will create a voiceover. Based on the length of the advertisement we will use AWS Rekognition to edit, color correct, and render the video based on a predefined template. Other offerings such as AWS Cognito and AWS EC2 may be used for Oauth2 login and Backend hosting respectively.

Milestones

1. Working frontend (user upload) and backend (MoviePy)
2. AWS S3 working and user accounts (database) with AWS Cognito for Oauth2
3. AWS Rekognition for image to text
4. AWS EC2 or Backendless architecture
5. Script generation using LLaVA or OpenAI and Google Text To Speech