Week 8: Video Editing With AI

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# Video Editing with AI

Movie and television studios spend millions of dollars annually removing objects from videos (Shimamura et al., 2020). This painstaking process requires humans to transpose pixels between different shots and then offset any differences, such as variations of lighting or color pallets. Businesses require a mechanism to automate this challenging process. This constructive research seeks to produce an algorithm that serves as that mechanism.

# Problem Statement

Production studios enjoy shooting video in the real world because it creates an authentic feeling and saves money. However, the camera also records licensed content, pedestrians, and other distracting objects within these shots. Video Effects (VFX) teams clean up the shots by carefully transposing pixels between different frames (Trinh et al., 2019). When the scene contains fast-paced action, a compounding of effort is required. For instance, VFX teams need to account for different lighting, object orientation, and non-static positioning.

Today, VFX teams meet these requirements through painstaking manual processes that require 3-D modeling and sophisticated software projects. These programs are complex and come with a high-barrier to entry, which in turn increases costs. Businesses would prefer to have artificial intelligence solutions manage these tasks. This capability would reduce costs, enable faster time-to-market, and free-up VFX resources for value-differentiating services.

The most powerful artificial intelligence applications use machines to enhance human capabilities rather than replace them (Heer, 2019; Boire, 2017). For instance, a person can write a more profound business case than a machine; however, the same machine will have fewer misspellings and grammatical errors. This dichotomy exists because humans specialize in contextualizing thought versus automation uses patterns to make predictions (Schleer et al., 2019).

# Methodological Approach

# Ethical Issues