

**Prediction: Fake, Confidence: 95.08%** 

## **Anomalous Frames**



# Visual Consistency

Analyzing the RGB frames, the image shows a silhouette of a person standing on a hill overlooking a cityscape. The lighting and shadows appear consistent with a sunset or sunrise scenario, which suggests a natural setting. However, the silhouette's edges may lack the integration expected between a foreground subject and background, hinting at possible compositing errors. The lighting on the figure seems uniformly dark, lacking variation that would typically occur due to environmental light sources, casting doubt on the authenticity of the scene.

## Motion Analysis

The optical flow frames represent motion dynamics, pivotal in understanding motion consistency across frames. The color distribution in these frames indicates movement primarily in the horizontal plane, consistent with a slow panning motion. However, the gradient patterns are somewhat unnatural. The abrupt changes in color, especially around the silhouette, suggest inconsistency in motion continuity or potential manipulation, supporting the likelihood of the video being fake. These discrepancies could be indicative of digital tampering where motion editing may not align with the expected flow of natural settings.

### **Technical Indicators**

In evaluating technical indicators, distinct anomalies are present in the visual and motion

artifacts. The clean edges around the silhouette in the optical flow suggest overlay techniques rather than seamless blending expected in real footage. Additionally, the uniformity in the optical flow indicates a lack of natural motion variance, critical in identifying genuine motion versus synthetic alteration. These attributes can be characteristic of artificial video generation or alteration methods like deepfakes.

#### **Overall Assessment**

Considering the elements from visual consistency, motion analysis, and technical indicators, there is strong evidence that supports the Al's classification of the video as fake. The inconsistencies in lighting and motion alignment, combined with technical irregularities in the optical flow, suggest significant post-production manipulation. The 95.08% confidence level in the Al classification appears justified given the objective analysis of visual and motion cues, leading to a credible conclusion that the video authenticity is compromised.