

# INFORMATICS INSTITUTE OF TECHNOLOGY In Collaboration with UNIVERSITY OF WESTMINSTER

## **Caption Generator for Videos**

A dissertation by

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#### ABSTRACT

One of the difficulties experienced by users who upload videos to social media platforms is the capacity to write captivating captions that precisely capture the spirit of a video. Although captions can improve video content, it can be challenging for viewers to create original and pertinent subtitles. Performance of videos may be impacted, and visibility may decline. In order to assist users identify captions that are both unique and pertinent, a mechanism must be developed.

A unique caption system for videos using machine learning algorithms has been created to solve this problem. Users can upload videos and the algorithm will suggest suitable captions based on keywords contained in the video. Additionally, users can use the system to add or select keywords and change the caption's tone. The computer then displays a list of possible captions that are both unique and pertinent to the video. The user has the option to copy and edit captions to suit their tastes.

Users are invited to upload movies and create captions using the system to check. The findings demonstrated that the recommended captions were very pertinent and interesting, which contributed to the improvement of the video content's discoverability. Additionally, the system's capacity to suggest clever and relevant captions helped users save time and effort by eliminating the need for human caption generation. Additionally, the incorporation of keywords enhanced search engine optimization, which enhanced the effectiveness of the movie. In general, users found the system to be a useful tool for producing interesting and pertinent captions for their videos on social media networks.

**Keywords:** Keyword Extraction, Computer Vision, Video Classification, Frame Segmentation, Deep neural network, Semantic segmentation, Scene understanding

#### **Subject Descriptors:**

Computing methodologies ~ Artificial intelligence ~ Computer vision ~ Computer vision problems ~ Frame Segmentation
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