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Soft Computing: Theories and Applications

Proceedings of SoCTA 2019

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Index Point Detection and Semantic Indexing of Videos—A Comparative Review



Mehul Mahrishi and Sudha Morwal

Abstract Primarily used for fun and entertainment, videos are now a motivation behind social, commercial, and business activities. It is presumed that by 2025, about 75% of all Internet traffic will be of videos. In education, videos are a source of learning. Study Webs of Active Learning for Young Aspiring Minds (SWAYAM), National Programme on Technology Enhanced Learning (NPTEL), Massive Open Online Courses (MOOCs), Coursera, and many other similar platforms provide not only courseware but also beyond the curriculum contents apart from the conventional syllabi. Even at the junior level, Byju's and similar educational portals are witnessing an explosive growth in video contents. Despite that we are now able to extract semantic features from images, video sequences and besides being ubiquitous in nature, video lectures have a limitation of smooth navigation between topics. Through this paper, we want to throw light on existing automated video indexing approaches and their prerequisites that are recently proposed. We tried to analyze them based on some existing measures.

Keywords E-learning · Lecture videos · Video segmentation · Video indexing · Text similarity · Video analysis

1 Introduction

The augmented visualized digital content persuades the researchers to explore novel dimensions in terms of indexing and partitioning and thereby inducing a coherent structure of the video document. Automatic multimedia content generation of a captured video lecture is very old [1]. A survey at UC Berkeley states that up to 65% of students use videos for better understanding of topics, they missed in the class [2].

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© Springer Nature Singapore Pte Ltd. 2020
M. Pant et al. (eds.), *Soft Computing: Theories and Applications*,
Advances in Intelligent Systems and Computing 1154,
https://doi.org/10.1007/978-981-15-4032-5_94

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