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A Video Classification System using Software Defined Network

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Abstract: *In this paper, we propose an innovative video classification system for efficient content management and user experience enhancement on platforms like YouTube. The system leverages Software-Defined Networking (SDN) techniques to optimize network performance, focusing on resource allocation rather than comment analysis. Using traditional Natural Language Processing (NLP) techniques, user comments associated with videos are preprocessed and analyzed, extracting relevant information such as sentiment analysis, keyword extraction, and topic modeling. These extracted features serve as inputs for the subsequent SDN-based network optimization stage. By dynamically allocating network resources, the system optimizes bandwidth, processing power, and storage, improving classification speed and reducing latency. Experimental results on a large dataset demonstrate the system's effectiveness in enhancing network performance and classification efficiency compared to traditional methods. Overall, our video classification system, combining NLP techniques for comment analysis and SDN principles for network optimization, offers a scalable and efficient solution for video classification on platforms like YouTube, enhancing the overall video sharing experience.*

Keywords: Wireshark, Supervised learning, Bag-of-Words(BOW), Random-Forrest-classifier, Video-Classification, Software Defined Networks, Natural Language Processing

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