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Visual Exploration and Analysis of Large-scale Multimedia Archives

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Abstract—This paper presents a visual analytic framework for the exploration and analysis of large-scale multimedia archives. By revealing different perspectives of a multimedia corpus, the framework gives high-level overviews of each type of data and provides powerful mechanisms for detailed analysis and shallow exploration adapted to large-scale audiovisual content. Using deep learning techniques (CNN) applied to images, audio, and text a pipeline is designed for the automatic indexation and classification of a large archive of multimedia data. The proposed visualization framework presents a multifaceted approach to exploring the richness of multimedia corpora with the provision of high-level overviews of datatypes and mechanisms for in-depth analysis and flexible exploration. The applicability of this approach with practical utility is demonstrated by compelling case studies conducted on a real-world archive dataset. These case studies serve as evidence to the efficacy for providing valued insights and effective exploration tool.

Keywords—Visual analytics, Large Multimedia, Image Visualization, Text Visualization