Multimodal Drivers of Attention Interruption to Baby Product Video Ads

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Abstract. Ad designers often use sequences of shots in video ads, where frames are similar within a shot but vary across shots. These visual variations, along with changes in auditory and narrative cues, can interrupt viewers' attention. In this paper, we address the underexplored task of applying multimodal feature extraction techniques to marketing problems. We introduce the "AttInfaForAd" dataset, containing 111 baby product video ads with visual ground truth labels indicating points of interest in the first, middle, and last frames of each shot, identified by 75 shoppers. We propose attention interruption measures and use multimodal techniques to extract visual, auditory, and linguistic features from video ads. Our feature-infused model achieved the lowest mean absolute error and highest R-square among various machine learning algorithms in predicting shopper attention interruption. We highlight the significance of these features in driving attention interruption. By open-sourcing the dataset and model code, we aim to encourage further research in this crucial area. (Dataset and model code available at https://github.com/ostadabbas/Baby-Product-Video-Ads).

Keywords: Baby products · Eye-tracking dataset · Attention · Computer vision · Natural language processing

1 Introduction

Video advertisements are a common medium for promoting baby products, often consisting of sequences of shots, each contributing to the overall narrative. Within a shot, frames are thematically and sequentially consistent, while

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