It's a Match! A Machine Learning Approach for Arousal Detection and Congruency in Online Video Content

Lars Gemmer
University of Cologne
Julian Wichmann
University of Cologne
Zeynep Karagür
University of Cologne, Sabanci University

Paper from the 53rd Annual EMAC Conference, Bucharest, Romania, May 28-31, 2024

It's a Match! A Machine Learning Approach for Arousal Detection and Congruency in Online Video Content

Abstract

Marketers have recognized the benefits of matching an advertisement to its surrounding content. Such congruency has been shown to increase advertising effectiveness and reduce consumers' reactance towards ads. While congruency has been extensively analyzed in terms of context (e.g., ad for soccer shoes on a sports news site), emotion congruency (e.g., a sad ad paired with a sad video) has received limited attention. However, to implement emotion congruency (e.g., arousal-based congruency), advertisers would need to identify the emotion of the content sur-rounding their ads. This is difficult in the highly dynamic field of online advertising. As such, this study makes two contributions: First, it shows how arousal congruency in video advertising affects ad effectiveness. Second, it presents a method to automatically infer the arousal level of video content by extracting a range of audiovisual data points and combining different machine learning tools for text, image, and audio analysis.

Subject Areas: *Advertising, Consumer Behaviour*

Track: Methods, Modelling & Marketing Analytics