Multimodal Sentiment Analysis: A Survey and Comparison

Ramandeep Kaur, Guru Kashi University, Talwandi Sabo, India
Sandeep Kautish, Guru Kashi University, Talwandi Sabo, India

ABSTRACT
Multimodal sentiments have become the challenge for the researchers and are equally sophisticated for an appliance to understand. One of the studies that support MS problems is a MSA, which is the training of emotions, attitude, and opinion from the audiovisual format. This survey article covers the comprehensive overview of the last update in this field. Many recently proposed algorithms and various MSA applications are presented briefly in this survey. The article is categorized according to their contributions in the various MSA techniques. The main purpose of this survey is to provide a full image of the MSA opportunities and difficulties and related field with brief details. The main contribution of this article includes the sophisticated categorizations of a large number of recent articles and the illustration of the recent trend of research in the MSA and its related areas.

KEYWORDS
Affect, Emotions, Human Behavior Analysis, Multimodal Sentiment Analysis, Opinion, Sentiment, Summarization, Task Identification

INTRODUCTION
“Sentiment analysis,” productions a substantial protagonist in fields in “affective computing,” refers to all the parts of detecting, analyzing and evaluating humans’ frame of cognizance towards different events, issues, services, or any other interest. More precisely, this field aims to mine sentiments, interpretations, and sensations based on observations of people’s actions can be captured using their writings, facial expressions, speech, music, movements etc. Below is the Exploration of sentiments from each one of these media is a specific field (Yang & Chen, 2012; Ayadi, Kamel & Karray, 2011).

Manuscript sentiment exploration has been an attractive topic of study since the mid-1990s; however, there barely exists a systematic organization of tasks under this area and people use different terms to mention to different tasks. For example, sentiment analysis, opinion mining, and polarity classification, which are define below, are rummage-sale to discourse the same concept. Sentiment is a thought, attitude or judgment provoked by a feeling. However, sentiment is a view colored by an emotion. It is not grim to confuse opinion and emotion; subsequently they have a well-built correlation. For instance, in many situations emotion stimulates a person to judge an entity and build opinions about it. Additionally, opinion of a soul can cause emotions in others. Based on the

DOI: 10.4018/IJSSMET.2019040103

Copyright © 2019, IGI Global. Copying or distributing in print or electronic forms without written permission of IGI Global is prohibited.
aforementioned reasons, the categorization of sentiment exploration is done into two chunks: Opinion mining, distributed with the manifestation of opinions, and Emotion mining, distributed with the articulation of emotions. Figure 1 that shows the categorization of sentiment exploration to these 2 tasks and the subtasks of each.

**Opinion Mining**

Estimation excavating is more anxious with the clue of opinions uttered in texts which can be positive, negative, or neutral and various Opinion-mining tasks are:

- **Subjectivity Detection**: The mission of detecting if a text is unprejudiced or idiosyncratic. Objective texts carry some factual information, while subjective texts express somebody’s personal views or opinions, for example, (Liu, 2011);
- **Opinion Polarity Classification**: The chore of determining whether the typescript expresses either affirmative or deleterious (or sometimes neutral) opinion;
- **Estimation Unsolicited Mail Concealment**: The chore of detecting fake opinions in favor of or against a merchandise or amenity that malicious users intentionally write to variety their target popular or unpopular. (Jindal & Liu, 2008);
- **Opinion Summarization**: The chore of summarizing a large bunch of opinions toward a topic, encompassing different perspectives, aspects, and polarities. The drudgery of (Hu & Liu, 2004), is an example of opinion summarization on product reviews;
- **Argument Expression Detection**: The chore of identifying argumentative structures and the inextricable between different arguments within a manuscript, the drudgery of (Lin et al., 2006), is solitary of the interesting previous works for one to read.

**Emotion Mining**

Emotion mining is the learning of emotions (e.g., joy, sadness) reflected in a portion of text and various emotion-mining tasks are:

- **Emotion Detection**: The chore of detecting if a text conveys any type of sensation or not. This is analogous to subjectivity detection for opinions and is lectured in (Gupta et al., 2013);

*Figure 1. Taxonomy of sentiment exploration tasks (Source: Yadollahi, Shahraki & Zaiane, 2017)*
PLC and SWOT Reengineered: Strategy Development Tools for Service Industries in Global Competition
www.igi-global.com/chapter/plc-swot-reengineered/61887?camid=4v1a

Business Process Change in E-Government Projects: The Case of the Irish Land Registry
www.igi-global.com/chapter/business-process-change-government-projects/44004?camid=4v1a