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## Reading list for Awesome Sentiment Analysis papers

Sentiment analysis as a field has come a long way since it was first introduced as a task nearly 20 years ago. It has widespread commercial applications in various domains like marketing, risk management, market research, and politics, to name a few. Given its saturation in specific subtasks — such as sentiment polarity classification — and datasets, there is an underlying perception that this field has reached its maturity.

Interested to know our take on the current challenges and future directions of this field using the following papers as compass?

Read this paper - Beneath the tip of the iceberg: Current challenges and new directions in sentiment analysis research. Soujanya Poria, Devamanyu Hazarika, Navonil Majumder, and Rada Mihalcea. IEEE Transactions on Affective Computing (2020).

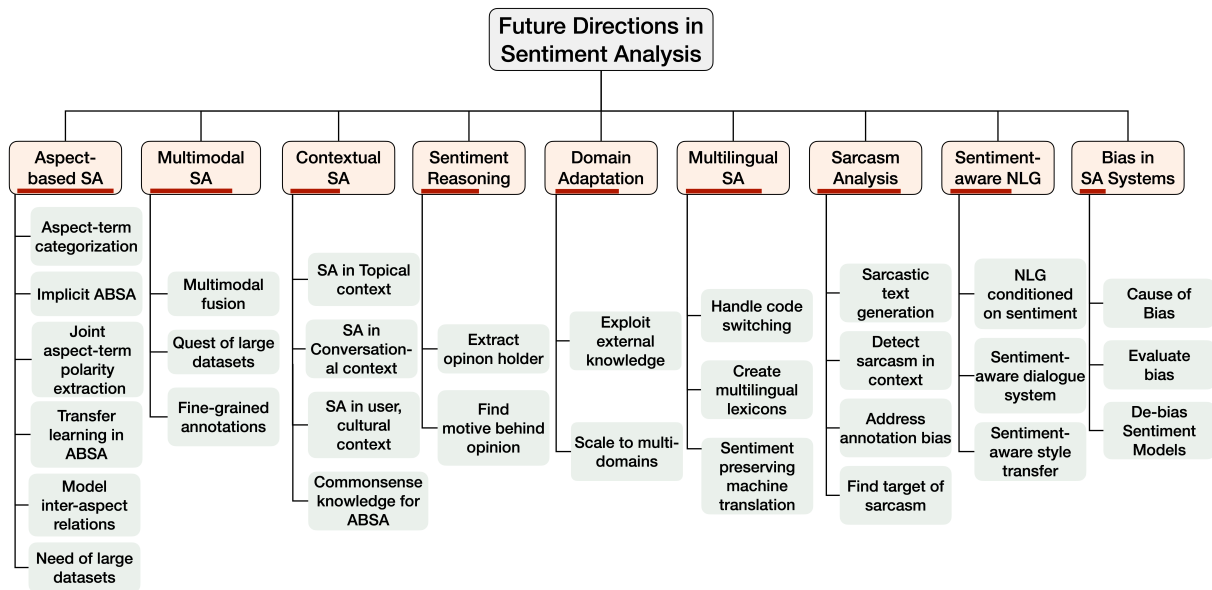
### Citation

If you find this repository useful in your research, you may cite the paper below where we briefly cover the progress in sentiment analysis and further address the key challenges and new directions in this domain.

Beneath the tip of the iceberg: Current challenges and new directions in sentiment analysis research. Soujanya Poria, Devamanyu Hazarika, Navonil Majumder, and Rada Mihalcea. IEEE Transactions on Affective Computing (2020).

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## New Directions in Sentiment Analysis



## Beginner's Guide (Must-Read Papers)

- Effects of adjective orientation and gradability on sentence subjectivity
- Word sense and subjectivity
- Thumbs up?: sentiment classification using machine learning techniques
- Thumbs up or thumbs down? semantic orientation applied to unsupervised classification of reviews
- A sentimental education: Sentiment analysis using subjectivity summarization based on minimum cuts
- Mining and summarizing customer reviews
- Recursive deep models for semantic compositionality over a sentiment treebank
- Convolutional neural networks for sentence classification
- Contextual valence shifters
- SENTIWORDNET: A publicly available lexical resource for opinion mining

## Topics

- Aspect-based Sentiment Analysis
- Multimodal Sentiment Analysis
- Contextual Sentiment Analysis
- Sentiment Reasoning

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- Sarcasm Analysis
  - Domain Adaptation
  - Multilingual Sentiment Analysis
  - Sentiment-aware NLG
  - Bias in Sentiment Analysis Systems
  - Robust Sentiment Analysis

### **Survey, Books, and Opinion Pieces**

- Sentiment Analysis and Opinion Mining
- Challenges in Sentiment Analysis
- Automatic Sarcasm Detection: A Survey
- Generating natural language under pragmatic constraints
- A survey of opinion mining and sentiment analysis
- A survey on opinion mining and sentiment analysis: Tasks, approaches and applications

### **Aspect-based Sentiment Analysis**

- Mining and summarizing customer reviews
- Topic sentiment mixture: modeling facets and opinions in weblogs
- Automatically Extracting Polarity-Bearing Topics for Cross-Domain Sentiment Classification
- Opinion Word Expansion and Target Extraction through Double Propagation
- Automated Rule Selection for Aspect Extraction in Opinion Mining
- Aspect extraction for opinion mining with a deep convolutional neural network
- Lifelong Learning CRF for Supervised Aspect Extraction
- Attention-based LSTM for aspect-level sentiment classification
- Dyadic Memory Networks for Aspect-based Sentiment Analysis
- Aspect Specific Sentiment Analysis using Hierarchical Deep Learning
- DOER: Dual Cross-Shared RNN for Aspect Term-Polarity Co-Extraction

### **Multimodal Sentiment Analysis**

- Multimodal sentiment analysis
- Deep Convolutional Neural Network Textual Features and Multiple Kernel Learning for Utterance-level Multimodal Sentiment Analysis
- Context-Dependent Sentiment Analysis in User-Generated Videos
- Multimodal sentiment analysis using hierarchical fusion with context modeling

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- Tensor Fusion Network for Multimodal Sentiment Analysis
  - Efficient Low-rank Multimodal Fusion With Modality-Specific Factors
  - Multimodal Language Analysis in the Wild: CMU-MOSEI Dataset and Interpretable Dynamic Fusion Graph
  - Memory Fusion Network for Multi-view Sequential Learning
  - Multi-attention Recurrent Network for Human Communication Comprehension
  - Contextual Inter-modal Attention for Multi-modal Sentiment Analysis
  - Context-aware Interactive Attention for Multi-modal Sentiment and Emotion Analysis
  - Multimodal Transformer for Unaligned Multimodal Language Sequences
  - Seq2Seq2Sentiment: Multimodal Sequence to Sequence Models for Sentiment Analysis
  - Found in Translation: Learning Robust Joint Representations by Cyclic Translations between Modalities
  - Modality to Modality Translation: An Adversarial Representation Learning and Graph Fusion Network for Multimodal Fusion

### **Contextual Sentiment Analysis**

- Coarse-grained +/-effect word sense disambiguation for implicit sentiment analysis
- Sentiment propagation via implicature constraints
- Context-dependent sentiment analysis in user-generated videos
- Enhanced twitter sentiment classification using contextual information
- Contextual valence shifters

### **Sentiment Reasoning**

#### **Who**

- End-to-end joint opinion role labeling with BERT
- Joint inference for fine-grained opinion extraction ### Why
- Reflections on Sentiment/Opinion Analysis
- Coarse-grained +/-effect word sense disambiguation for implicit sentiment analysis
- Sentiment propagation via implicature constraints

### **Sarcasm Analysis**

- ICWSM - A Great Catchy Name: Semi-Supervised Recognition of Sarcastic Sentences in Online Product Reviews

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- Identifying Sarcasm in Twitter: A Closer Look
  - Who cares about sarcastic tweets? Investigating the impact of sarcasm on sentiment analysis
  - Sarcasm as Contrast between a Positive Sentiment and Negative Situation
  - Your Sentiment Precedes You: Using an author's historical tweets to predict sarcasm
  - Contextualized Sarcasm Detection on Twitter
  - Exploring Author Context for Detecting Intended vs Perceived Sarcasm
  - Harnessing Context Incongruity for Sarcasm Detection
  - Sarcasm Analysis Using Conversation Context
  - Reasoning with Sarcasm by Reading In-between
  - Detecting Sarcasm in Multimodal Social Platforms
  - Harnessing Cognitive Features for Sarcasm Detection
  - CASCADE: Contextual Sarcasm Detection in Online Discussion Forums
  - The Effect of Sociocultural Variables on Sarcasm Communication Online
  - iSarcasm: A Dataset of Intended Sarcasm
  - Towards Multimodal Sarcasm Detection (An *Obviously* Perfect Paper)

## **Domain Adaptation**

- Biographies, Bollywood, Boom-boxes and Blenders: Domain Adaptation for Sentiment Classification
- Domain Adaptation for Large-Scale Sentiment Classification: A Deep Learning Approach
- Inducing Domain-Specific Sentiment Lexicons from Unlabeled Corpora
- Marginalized Denoising Autoencoders for Domain Adaptation
- Unsupervised Domain Adaptation by Backpropagation
- Domain Separation Networks
- Cross-domain sentiment classification via spectral feature alignment
- Pivot Based Language Modeling for Improved Neural Domain Adaptation

## **Multilingual Sentiment Analysis**

- Multilingual Sentiment Analysis: State of the Art and Independent Comparison of Techniques
- Comparing the Level of Code-Switching in Corpora
- De-Mixing Sentiment from Code-Mixed Text

## **Sentiment-aware NLG**

- The effects of affective interventions in human-computer interaction

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- Predicting and Eliciting Addressee's Emotion in Online Dialogue
  - Emotional chatting machine: Emotional conversation generation with internal and external memory
  - Affect-LM: A Neural Language Model for Customizable Affective Text Generation
  - A Pattern-Based Model for Generating Text to Express Emotion
  - Toward Controlled Generation of Text
  - SentiGAN: Generating Sentimental Texts via Mixture Adversarial Networks
  - Learning to Generate Reviews and Discovering Sentiment
  - Learning to Generate Product Reviews from Attributes
  - Delete, Retrieve, Generate: a Simple Approach to Sentiment and Style Transfer
  - Disentangled Representation Learning for Non-Parallel Text Style Transfer
  - Style Transfer from Non-Parallel Text by Cross-Alignment

### **Bias in Sentiment Analysis Systems**

- Examining gender and race bias in two hundred sentiment analysis systems
- Exploring demographic language variations to improve multilingual sentiment analysis in social media
- The geography of happiness: Connecting twitter sentiment and expression, demographics, and objective characteristics of place

### **Robust Sentiment Analysis**

- Word-level Textual Adversarial Attacking as Combinatorial Optimization | ACL 2020
- LexicalAT: Lexical-Based Adversarial Reinforcement Training for Robust Sentiment Classification | EMNLP 2019
- Adversarial Attack on Sentiment Classification | ACL 2019 Workshop
- Adversarial Training for Aspect-Based Sentiment Analysis with BERT