

# TEXT, WEB AND SOCIAL MEDIA ANALYTICS CSE6019

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## COURSE OBJECTIVE

1. To Gain experience with both theoretical and practical aspects of text, web, social Media mining.

## EXPECTED OUTCOME

On Completion of the course, the students will be able to

1. Build and evaluate the computer programs that generate new knowledge from natural language text.
2. Discover useful knowledge from the web.
3. Perform social network analysis to identify important social actors, subgroups (i.e., clusters), and network properties in social media sites such as Twitter, Facebook, and YouTube.
4. Provide solutions to the emerging problems with social media such as sentiment analysis and recommendation systems.

- **Syllabus:**
- **UNIT - I Introduction to Text Mining**
  - Text Representation
  - Tokenization
  - Stemming
  - Stop Words
  - TF-IDF
  - Feature Vector Representation
  - NER
  - N-Gram Modeling

## ■ Syllabus

## ■ UNIT - II Mining Textual Data

- Text Clustering
- Text Classification
- Topic Modeling:
  - LDA (Latent Dirichlet Allocation)
  - HDP (Hierarchical Dirichlet Process)

## ■ Syllabus

### ■ UNIT - III Introduction to Web-Mining

- Inverted indices and Boolean queries
- pLSI: Topic Modeling
- Query Optimization
- Page Ranking

## ■ Syllabus

### ■ UNIT - IV Web usage and Web content Mining

- Web Crawling
  - Crawler Algorithms
  - Implementation Issues
  - Evaluation
- Session and Visitor Analysis
- Visitor Segmentation
- Analysis of Sequential and Navigational Patterns
- Predictions based on web user transactions

- **Syllabus**
- **UNIT - V Introduction to Social Media Networks**
  - Essentials of Social graphs
  - Social Networks and Models
  - Information Diffusion in Social Media



- **Syllabus**
- **UNIT - VI Mining Social Media**
  - Behavioral Analytics
  - Influence and Homophily
  - Recommendation in Social Media

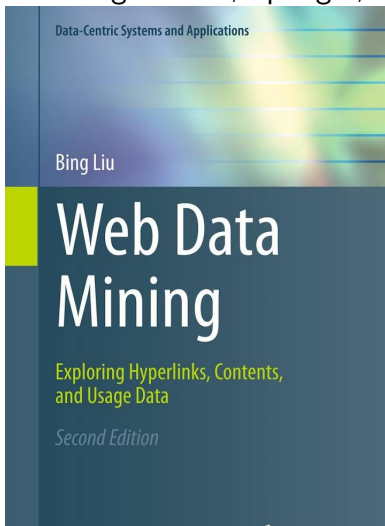
## ■ Syllabus

### ■ UNIT - VII Sentiment Mining

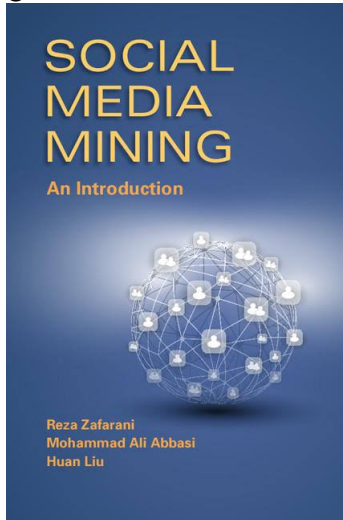
- Sentiment Classification
- Feature Based opinion mining
- comparative sentence and relational mining
- Opinion spam

## ■ Recent Trends in Text, Web and Social Media Analytics

- Bing Liu, "Web Data Mining-Exploring Hyperlinks, Contents, and Usage Data", Springer, Second Edition, 2011.

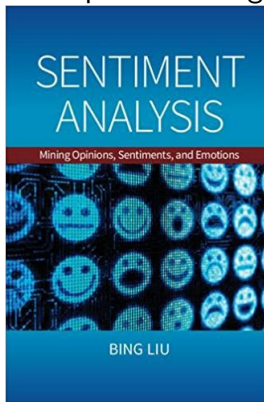


- Reza Zafarani, Mohammad Ali Abbasi and Huan Liu, "Social Media Mining-An Introduction", Cambridge University



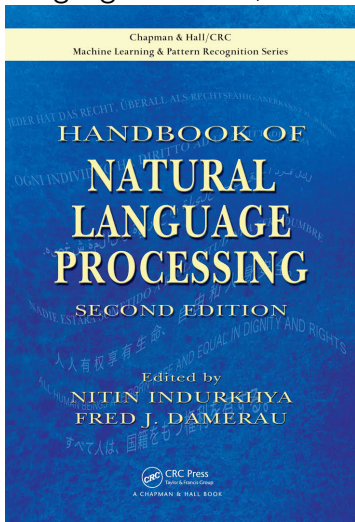
Press, 2014.

- Bing Liu, "Sentiment Analysis and Opinion Mining", Morgan

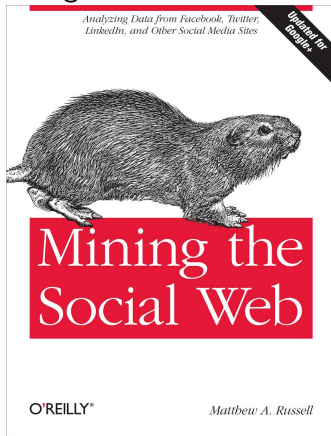


and Claypool Publishers, 2012

- Nitin Indurkha, Fred J Damerau, "Hand book of Natural Language Process", 2<sup>nd</sup> Edition, CRC Press, 2010.



- Matthew A. Russell, "Mining the social web", 2<sup>nd</sup> edition -



O'Reilly Media, 2013.