**Assignment No: 2 Matriculation Number: 00387718, 00413018**

**Literature Survey: Psychological Disorder Profiling through Social Media Mining**

**Summary:**

In the literature survey for this research, the focus was primarily on scientific papers which explore sentiment analysis, opinion mining and psychological disorder analysis. Authors vary with their approach and point of view on sentiment analysis, depending upon methodologies and algorithms used to achieve the desired results. Earlier writings focused more on analysing lexical impact of various words within a text. Later on, the writings focused more on combining sentiment analysis with technology. The most recent writings emphasize on combination of approaches towards sentiment analysis over online activities of an individual.

Scientific papers which were found on the mentioned search engines were related to sentiment analysis on Twitter tweets and examination of psychological state of an individual depending upon their verbal and textual behaviour. As a result of this, 6 research papers were selected which were the closest to relate to this research study with different execution approaches and use of algorithms.

**Search Engines: IEEE, DBLP, ELSEVIER, Google Scholar.**

**Field scope:**

The field sentiment analysis is over 20 years old, with article published by *Yanon Volcani,* *David Fogel (2000)* “System and method for determining and controlling the impact of text” back in December 2000.This was followed by the works of *Peter Turney* *(2002)* “Thumbs Up or Thumbs down? Semantic Orientation Applied to Unsupervised Classification of Reviews” and *Bo Pang, Lillian Lee, Shivakumar Vaithyanthan* *(2002)* “Thumbs up? Sentiment Classification using Machine Learning Techniques” with different methods to detect polarity of a product review.

The future scope of this field will be more inclined towards Social media monitoring, Brand monitoring, Customer service, Product analytics and Market research and analysis. With the help of various algorithms and hybrid approaches improved accuracy and precision can be obtained which could be useful to get insight over the conversation quality over social media or about public opinion towards any trending topic or product.

**Key players/institutions:** *Yanon Volcani,* *David Fogel, Bo Pang, Lillian Lee, Peter Turney, Bing Liu. Insightatlas.com, Talkwalker.com.*

**Literature Review:**

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| **Sr no** | **Research Paper** | **Author** | **Observations** |
| 1 | Predicting Personality from Twitter | Jennifer Golbeck, Cristina Robles, Michon Edmondson, Karen Turner (University of Maryland) | Analysing 5 Personality traits (Openness, Conscientiousness, Extroversion, Agreeableness, Neuroticism) to determine an individual's personality using social media information |
| 2 | Sentiments Analysis of Twitter Data Using Data Mining | Anurag P. Jain, Vijay D. Katkar (Pimpri Chinchwad College of Engineering Pune, India) | Analyse sentiments using Data mining classifiers.Performance comparison between single & ensemble of classifiers. |
| 3 | Survey on Sentiment Analysis using Twitter Dataset | Rasika Wagh, Payal Punde (BAMU Aurangabad, India) | Comparative study of different techniques and approaches of sentiment analysis having  twitter as a data. |
| 4 | Exploring Sentiment Analysis on Twitter Data | Manju Venugopalan, Deepa Gupta (Amrita School of Engineering Bangalore, India) | A hybrid model for sentiment classification that explores the tweet specific features and uses domain independent and domain specific lexicons |
| 5 | Intelligent AI Assisted Psychological Disorder Analysis Using Sentiment Inference | Anil Anil Kamath, Nirav Raje, Saishashank Konduri, Hardik Shah, Varsha Naik  (MIT Pune, India) | A standardized platform for an assistance in diagnosis of Psychological disorders using NLP techniques and Sentiment Inference. |
| 6 | A Hybrid Statistical and Semantic Model for Identification of Mental Health and Behavioral  Disorders using Social Network Analysis | Madan Krishnamurthy, Khalid Mahmood, Pawel Marcinek (Oakland University, Rochester,  Michigan, USA) | To establish a correlation between the personality traits exhibited by a social network user to their mental & behavioural health based upon the big five personality model. |

**Above research papers were published in following conferences:**

1. 2011 IEEE International Conference on Privacy, Security, Risk, and Trust, and IEEE International Conference on Social Computing.
2. 2015 International Conference on Information Processing (ICIP), Vishwakarma Institute of Technology.
3. International Conference on Electronics, Communication and Aerospace Technology (ICECA 2018).
4. 2015 Eighth International Conference on Contemporary Computing (IC3).
5. 2018 International Conference on Advances in Computing, Communications and Informatics (ICACCI).
6. 2016 IEEE/ACM International Conference on Advances in Social Networks Analysis and Mining (ASONAM).