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TWACH: THE BIAS PLATFORM  
Twitter Sentiment Analysis

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*Abstract*— This project aims to address the problem of sentiment analysis on twitter. Classifying tweets based on the sentiment expressed in them- positive, negative or neutral. We can harvest data and analyze the tweets either by providing a username or any hashtag. The user inputs the number of tweets to be extracted and date of extraction along with the hashtag or the username. If the input is not empty then using twitter API, we scrape the tweets from twitter in real time. The NLP technique is then used for cleaning them. The tweets are analyzed and classified according to their polarity and subjectivity scores into positive, negative or neutral lists and finally visualized. Analyzing the public sentiment or opinion on something is important for many applications such as firms trying to find out the public sentiment of their products in the market, predicting political elections and socioeconomic phenomena like stock exchange. The aim of this project is to develop a functional classifier for accurate and automatic sentiment classification of recent tweets.

Keywords— Sentiment, Tweets, NLP, Hashtag, Username, Polarity, Subjectivity

# **Introduction**

Data analysis is the process of applying organized and systematic statistical techniques to data to describe, recap, check and condense it. It is applying these techniques to modify data to suit our requirements. Data mining is a multistep process that involves collecting, organizing,

cleaning of the data. It is needed because different sources like social media, enterprise data, public data, transactions etc. generate data of increasing volume every day, and it is important to handle, analyze and organize such big data. Social media is something that has become a game changer in the 21st century, something that we live by. It has changed how we and enterprises look at advertising, marketing, globalization or politics. The data we generate has been estimated to be increasing faster than ever before and in the year 2020, about 1.7 megabytes of additional data has been generated by each person. 2.5 quintillion bytes of data are produced by humans every day. More data has been generated in the past two years than ever before in the history of mankind. Internet users have also increased from millions to billions with the introduction of affordable internet services.

**The purpose of the contribution statement** is for you to provide a clear and concise understanding of the primary contribution provided by your manuscript. The statement should:

1. clearly articulate the ways in which the research provides insight to a consumer-relevant question;
2. situate your research within the existing knowledge on the topic; and
3. explain what the research adds to what is already known about the consumer-relevant problem.

As a last paragraph of the introduction should provide organization of the paper/article (Rest of the paper is organized as follows, Section I contains the introduction of ………………. , Section II contain the related work of ……………, Section III contain the some measures of …………...., Section IV contain the architecture and essential steps of ……………..., section V explain the …………..

***\*Corresponding Author: Author ABC***

methodology with flow chart, Section VI describes results and discussion …...., Section VII contain the recommendation of …………. and Section VIII concludes research work with future directions).

# **Related Work**

In this section, the author describes the previous research works in the form of title, problem statement, objectives, not repeat the information discussed in Introduction [2].

# **Methodology**

Relevant details should be given including experimental design and the technique (s) used along with appropriate statistical methods used clearly along with the year of experimentation (field and laboratory).

# **Results and Discussion**

It should include important findings discussed briefly. Wherever necessary, elaborate on the tables and figures without repeating their contents. Interpret the findings in view of the results obtained in this and in past studies on this topic. State the conclusions in a few sentences at the end of the paper. However, valid colored photographs can also be published.

# **Conclusion and Future Scope**

The main conclusions of the study may be presented in a short Conclusion Section. In this section, the author(s) should also briefly discuss the limitations of the research and Future Scope for improvement.

# **Prepare Your Paper Before Styling**

Before you begin to format your paper, first write and save the content as a separate text file. Keep your text and graphic files separate until after the text has been formatted and styled. Do not use hard tabs, and limit use of hard returns to only one return at the end of a paragraph. Do not add any kind of pagination anywhere in the paper. Do not number text heads-the template will do that for you [3].

Finally, complete content and organizational editing before formatting. Please take note of the following items when proofreading spelling and grammar:

## Abbreviations and Acronyms

Define abbreviations and acronyms the first time they are used in the text, even after they have been defined in the abstract. Abbreviations such as IEEE, SI, MKS, CGS, sc, dc, and rms do not have to be defined. Do not use abbreviations in the title or heads unless they are unavoidable [2,4].

## Units

* Use either SI (MKS) or CGS as primary units. (SI units are encouraged.) English units may be used as secondary units (in parentheses). An exception would be the use of English units as identifiers in trade, such as “3.5-inch disk drive” [5].
* Avoid combining SI and CGS units, such as current in amperes and magnetic field in oersteds. This often leads to confusion because equations do not balance dimensionally. If you must use mixed units, clearly state the units for each quantity that you use in an equation.
* Do not mix complete spellings and abbreviations of units: “Wb/m2” or “webers per square meter”, not “webers/m2”. Spell out units when they appear in text: “. . . a few henries”, not “. . . a few H”.
* Use a zero before decimal points: “0.25”, not “.25”. Use “cm3”, not “cc”. (*bullet list*)

## Equations

The equations are an exception to the prescribed specifications of this template. You will need to determine whether or not your equation should be typed using either the Times New Roman or the Symbol font (please no other font). To create multileveled equations, it may be necessary to treat the equation as a graphic and insert it into the text after your paper is styled [5].

Number equations consecutively. Equation numbers, within parentheses, are to position flush right, as in (1), using a right tab stop. To make your equations more compact, you may use the solidus ( / ), the exp function, or appropriate exponents. Italicize Roman symbols for quantities and variables, but not Greek symbols. Use a long dash rather than a hyphen for a minus sign [6]. Punctuate equations with commas or periods when they are part of a sentence, as in

 

Note that the equation is centered using a center tab stop. Be sure that the symbols in your equation have been defined before or immediately following the equation. Use “(1)”, not “Eq. (1)” or “equation (1)”, except at the beginning of a sentence: “Equation (1) is . . .”

## Some Common Mistakes

* The word “data” is plural, not singular.
* The subscript for the permeability of vacuum **0, and other common scientific constants, is zero with subscript formatting, not a lowercase letter “o”.
* In American English, commas, semi-/colons, periods, question and exclamation marks are located within quotation marks only when a complete thought or name is cited, such as a title or full quotation. When quotation marks are used, instead of a bold or italic typeface, to highlight a word or phrase, punctuation should appear outside of the quotation marks. A parenthetical phrase or statement at the end of a sentence is punctuated outside of the closing parenthesis (like this). (A parenthetical sentence is punctuated within the parentheses.)
* A graph within a graph is an “inset”, not an “insert”. The word alternatively is preferred to the word “alternately” (unless you really mean something that alternates).
* Do not use the word “essentially” to mean “approximately” or “effectively”.
* In your paper title, if the words “that uses” can accurately replace the word “using”, capitalize the “u”; if not, keep using lower-cased.
* Be aware of the different meanings of the homophones “affect” and “effect”, “complement” and “compliment”, “discreet” and “discrete”, “principal” and “principle”.
* Do not confuse “imply” and “infer”.
* The prefix “non” is not a word; it should be joined to the word it modifies, usually without a hyphen.
* There is no period after the “et” in the Latin abbreviation “et al.”.
* The abbreviation “i.e.” means “that is”, and the abbreviation “e.g.” means “for example”.

An excellent style manual for science writers is [7].

# **Using the Template**

After the text edit has been completed, the paper is ready for the template. Duplicate the template file by using the Save As command, and use the naming convention prescribed by your conference for the name of your paper. In this newly created file, highlight all of the contents and import your prepared text file. You are now ready to style your paper; use the scroll down window on the left of the MS Word Formatting toolbar [8,9,10].

## Authors and Affiliations

The template is designed so that author affiliations are not repeated each time for multiple authors of the same affiliation. Please keep your affiliations as succinct as possible (for example, do not differentiate among departments of the same organization). This template was designed for two affiliations.

### For author/s of only one affiliation (Heading 3): To change the default, adjust the template as follows.

#### Selection (Heading 4): Highlight all author and affiliation lines.

#### Change number of columns: Select the Columns icon from the MS Word Standard toolbar and then select “1 Column” from the selection palette.

#### Deletion: Delete the author and affiliation lines for the second affiliation.

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#### Selection: Highlight all author and affiliation lines.

#### Change number of columns: Select the “Columns” icon from the MS Word Standard toolbar and then select “1 Column” from the selection palette.

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#### Formatting: Insert one hard return immediately after the last character of the last affiliation line. Then paste down the copy of affiliation 1. Repeat as necessary for each additional affiliation.

#### Reassign number of columns: Place your cursor to the right of the last character of the last affiliation line of an even numbered affiliation (e.g., if there are five affiliations, place your cursor at end of fourth affiliation). Drag the cursor up to highlight all of the above author and affiliation lines. Go to Column icon and select “2 Columns”. If you have an odd number of affiliations, the final affiliation will be centered on the page; all previous will be in two columns.

## Identify the Headings

Headings, or heads, are organizational devices that guide the reader through your paper. There are two types: component heads and text heads.

Component heads identify the different components of your paper and are not topically subordinate to each other. Examples include Acknowledgments and References and, for these, the correct style to use is “Heading 5”. Use “figure caption” for your Figure captions, and “table head” for your table title. Run-in heads, such as “Abstract”, will require you to apply a style (in this case, italic) in addition to the style provided by the drop down menu to differentiate the head from the text.

Text heads organize the topics on a relational, hierarchical basis. For example, the paper title is the primary text head because all subsequent material relates and elaborates on this one topic. If there are two or more sub-topics, the next level head (uppercase Roman numerals) should be used and, conversely, if there are not at least two sub-topics, then no subheads should be introduced. Styles named “Heading 1”, “Heading 2”, “Heading 3”, and “Heading 4” are prescribed.

## Figures and Tables

### All figures in the manuscript should be numbered sequentially using Arabic numerals (e.g., Figure 1, Figure 2), and each figure should have a descriptive title. The figure number and title should be typed in italic type, single-spaced, and centered across the bottom of the figure, in 9-point Times New Roman, as shown below.

### Tables should be numbered sequentially using Arabic numerals (e.g., Table 1, Table 2), and each table should have a descriptive title. The table number and title should be typed in normal type, single-spaced, and centered across the top of the table, in 8-point Times New Roman, as shown below.

### Table 1. Type Styles

| Table Head | Table Column Head | | |
| --- | --- | --- | --- |
| Table column subhead | Subhead | Subhead |
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| copy | More table copya |  |  |



1. Example of a figure caption. *(figure caption)*

Figure Labels: Use 8 point Times New Roman for Figure labels. Use words rather than symbols or abbreviations when writing Figure axis labels to avoid confusing the reader. As an example, write the quantity “Magnetization”, or “Magnetization, M”, not just “M”. If including units in the label, present them within parentheses. Do not label axes only with units. In the example, write “Magnetization (A/m)” or “Magnetization {A[m(1)]}”, not just “A/m”. Do not label axes with a ratio of quantities and units. For example, write “Temperature (K)”, not “Temperature/K”.

##### **Acknowledgment *(Heading 5)***

The preferred spelling of the word “acknowledgment” in America is without an “e” after the “g”. Avoid the stilted expression, “One of us (R. B. G.) thanks . . .” Instead, try “R. B. G. thanks”. Put sponsor acknowledgments in the unnum-bered footnote on the first page.

##### **References**

The template will number citations consecutively within brackets [1]. The sentence punctuation follows the bracket [2]. Refer simply to the reference number, as in [3]—do not use “Ref. [3]” or “reference [3]” except at the beginning of a sentence: “Reference [3] was the first . . .”

Number footnotes separately in superscripts. Place the actual footnote at the bottom of the column in which it was cited. Do not put footnotes in the reference list. Use letters for table footnotes.

Unless there are six authors or more give all authors' names; do not use “et al.”. Papers that have not been published, even if they have been submitted for publication, should be cited as “unpublished” [4]. Papers that have been accepted for publication should be cited as “in press” [5]. Capitalize only the first word in a paper title, except for proper nouns and element symbols.

For papers published in translation journals, please give the English citation first, followed by the original foreign-language citation [6].

All references arranged in the following format for and remove website (URL) references or replaced by Journal references.

*Format for Journal Paper*

<First character of name & First character of Middle name>. <Last name>, “*title of paper*”, Journal Name, Vol. X(Issue/No), pp.<Page no>, <Year>.

Example:1- S.K. Sharma, L. Gupta, “*A Novel Approach for Cloud Computing Environment*”, International Journal of Computer Sciences and Engineering, Vol. **4,** Issue.**12**, pp.**1-5**, **2014**.

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Example:K. Gupta, “*A Proposed New Approach for Cloud Environment using Cryptic rules*”, ISROSET Publisher, **India**, pp. **542-545, 2016.**

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Example: S.L. Mewada, “*A Proposed New Approach for Cloud Environment using Cryptic Techniques*”, In the Proceedings of the 2016 International Conference on  Computer Science and Engineering, **India**, pp.**542-545**, **2016**.

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1. S. Willium, “*Network Security and Communication*”, IEEE Transaction, Vol.**31,** Issue.**4**, pp.**123-141**, **2012**. For Journal
2. R. Solanki, “*Principle of Data Mining*”, McGraw-Hill Publication, **India**, pp. 386-398, 1998. For Book
3. M. Mohammad, “*Performance Impact of Addressing Modes on Encryption Algorithms*”, In the Proceedings of the 2001 IEEE International Conference on Computer Design (ICCD 2001), Indore, **USA**, pp.**542-545**, **2001.** For Conference
4. S.K. Sharma, “*Performance Analysis of Reactive and Proactive Routing Protocols for Mobile Ad-hoc –Networks*”, International Journal of Scientific Research in Network Security and Communication, Vol.**1,**  No.**5**, pp.**1-4**, **2013**.
5. S.L. Mewada, “*Exploration of Efficient Symmetric AES Algorithm*”, International Journa of Computer Sciences and Engineering, Vol.**4**, Issue.**11**, pp.**111-117**, **2015**.
6. A. Mardin, T. Anwar, B. Anwer, “*Image Compression: Combination of Discrete Transformation and Matrix Reduction*”, International Journal of Computer Sciences and Engineering, Vol.**5,** Issue.**1**, pp.**1-6**, **2017**.
7. H.R. Singh, “*Randomly Generated Algorithms and Dynamic Connections*”, International Journal of Scientific Research in Network Security and Communication, Vol.**2,** Issue.**1**, pp.**231-238**, **2014.**
8. Thomas L., “*A Scheme to Eliminate Redundant Rebroadcast and Reduce Transmission Delay Using Binary Exponential Algorithm in Ad-Hoc Wireless Networks*”, International Journal of Computer Sciences and Engineering, Vol.**3,** Issue.**8**, pp.**1-6**, **2017**.
9. C.T. Lee, A. Girgensohn, J. Zhang, “*Browsers to support awareness and Social Interaction*,” Computer Graphics and Applications, Journal of IEEE Access , Vol.**24,** Issue.**10**, pp.**66-75**, **2012.** doi: 10.1109/MCG.2004.24
10. Lin C., Lee B., “*Exploration of Routing Protocols in Wireless Mesh Network*”, In the Proceedings of the 2015 IEEE Symposium on Colossal Big Data Analysis and Networking Security, Canada, pp.**111-117**, **2015**.
11. S. Tamilarasan, P.K. Sharma, “*A Survey on Dynamic Resource Allocation in MIMO Heterogeneous Cognitive Radio Networks based on Priority Scheduling*”, International Journal of Computer Sciences and Engineering, Vol.**5,** No.**1**, pp.**53-59**, **2017**.

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