

# The Social Media Macroscopic (socialmediamacroscope.org)

Joseph T. Yun<sup>1</sup>, Nickolas Vance<sup>1</sup>, Chen Wang<sup>2</sup>, Joseph Troy<sup>3</sup>, Luigi Marini<sup>2</sup>, Robert Booth<sup>1</sup>, Todd Nelson<sup>1</sup>, Ashley Hetrick<sup>3</sup>, Hagen Hodgekins<sup>4</sup>  
<sup>1</sup>Technology Services, University of Illinois at Urbana-Champaign (Illinois), <sup>2</sup>National Center for Supercomputing Applications, Illinois, <sup>3</sup>Library, Illinois, <sup>4</sup>Elizabeth City State University

## INTRODUCTION

Social media analytics is, “concerned with developing and evaluating informatics tools and frameworks to collect, monitor, analyze, summarize, and visualize social media data, usually driven by specific requirements from a target application” [1, p. 14]. The global social media analytics market was valued at \$3.07 billion in 2017 and is projected to grow to \$16.37 billion by 2023 [2]. The analysis of social media is not limited just to business applications, but it is also used widely in academic research, e.g., [3] and [4]. One of the barriers to entry with regards to social media analytics is that conducting social media analytics requires an understanding of data science principles as well as a range of skills required to conduct these data science methods [5]. The Social Media Macroscopic (SMM) helps to bridge this gap by providing intuitive web interfaces for conducting social media analytics.



The SMM is under the incubation of the NSF funded Science Gateways Community Institute.

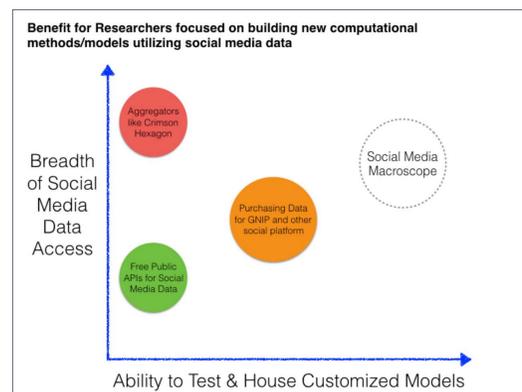
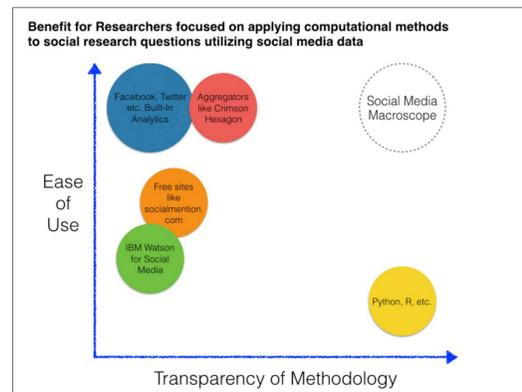
## THE NAPKIN DRAWING



The Social Media Macroscopic is a science gateway with the goal of making social media data, analytics, and visualization tools accessible to researchers and students of all levels of expertise. The SMM provides a single point of access to a suite of intuitive web interfaces for performing social media data collection, analysis, and visualization via for open-source and commercial tools.

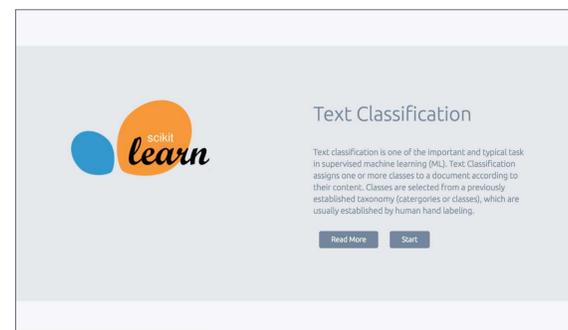
## BACKGROUND

There is no shortage of social media analytics tools and environments across both industry and academia, but most of these tools and environments are built in a way that favors usage by companies (as opposed to academia), e.g., [6], or those with computer science backgrounds, e.g., [7]. The gap therefore exists for academic researchers that do not necessarily come from computational backgrounds. To illustrate how the SMM fills this gap, we present two exemplar researchers: a researcher without a background in the computational sciences that wants to use social media analytics to answer social research questions, and a researcher with a background in the computational sciences that wants to build data science models/methods for social media analytics. As a note, we acknowledge that researchers are evolving to be somewhere in the middle between the two exemplars that we present, but we present our argument in this manner to clarify the gap in which the SMM addresses.



The two above figures illustrate the value of the SMM to various types of researchers.

## QUICK GLANCE



## REFERENCES

- [1] D. Zeng, H. Chen, R. Lusch, and S.-H. Li, “Social media analytics and intelligence,” *IEEE Intell. Syst.*, vol. 25, no. 6, pp. 13–16, 2010.
- [2] “Global Social Media Analytics Market 2018 by Component, Mode of Deployment, End-User, Technology, New Innovation, Trends, and Forecasts to 2023,” Reuters, 2018. [Online]. Available: <https://www.reuters.com/brandfeatures/venture-capital/article?id=27472>. [Accessed: 19-Jul-2018].
- [3] A. Culotta and J. Cutler, “Mining Brand Perceptions from Twitter Social Networks,” *Mark. Sci.*, p. mksc.2015.0968, 2016.
- [4] G. Carducci, G. Rizzo, D. Monti, E. Palumbo, and M. Morisio, “TuitPersonality: Computing Personality Traits from Tweets Using Word Embeddings and Supervised Learning,” *Information*, vol. 9, no. 5, p. 127, 2018.
- [5] W. Fan and M. D. Gordon, “Unveiling the Power of Social Media Analytics,” *Commun. ACM*, vol. 12, no. JUNE 2014, pp. 1–26, 2013.
- [6] “Leading Social Media Analytics Company | Homepage | Crimson Hexagon,” 2017. [Online]. Available: <https://www.crimsonhexagon.com/>. [Accessed: 01-Jun-2017].
- [7] C. J. Hutto and E. Gilbert, “Vader: A parsimonious rule-based model for sentiment analysis of social media text,” *Eighth Int. AAI Conf. Weblogs ...*, pp. 216–225, 2014.

## CONCLUSIONS

As a community grows around the SMM, we envision additional tools, algorithms, and functionality to be added by members of the larger community. We envision that the SMM will bring us closer to a place where social researchers can focus primarily on the research question at hand, rather than all the technology details that surround the answering of that question.

## ACKNOWLEDGEMENTS

We would like to thank Technology Services at the University of Illinois for providing the necessary funding and support to make this project a reality. This would not have been possible without Mark Henderson, John Towns, Tracy Smith, Tim Boerner, and Laura Herriott.

