JOUR 400

Digital Media and Big Data

Jacob Long, Ph.D.
jacob.long@sc.edu
Office Hours: *Mondays/Wednesdays 2:10pm – 3:10pm and by appointment*.

Fall 2021
SJMC 106
Monday, Wednesday, and Friday, 1:10pm–2:00pm

> "Big data is like teenage sex: everyone talks about it, nobody really knows how to do it, everyone thinks everyone else is doing it, so everyone claims they are doing it."
>
> — Dan Ariely, *James B. Duke Professor of Psychology and Behavioral Economics, Duke University*

Course Description

This course is designed to introduce students to big data with particular attention to its role in communications professions. Coursework proceeds along two paths. The first emphasizes an understanding of what big data is, the role it plays in society and the marketplace, as well as the possibilities and perils of big data in the near future. The second path focuses on building some of the basic competencies and knowledge for students to use big data and evaluate claims based on it. Students are not expected to have any technical expertise as a prerequisite of the course.

Course Objectives

Students who successfully complete this course will be able to:

- Demonstrate the ability to design big data research, retrieve and analyze data, and present research outcomes at a professional level.
- Understand the history of digital media and big data as well as the current role of digital media and big data in society.
- Understand the ethical and legal issues that one must consider when working with big data.
- Apply data analysis tools, concepts, and technologies properly for the presentation of information in professional settings.
- Execute and evaluate research by applying basic numerical and statistical concepts and methods appropriate for communications professions.
- Create content that effectively tells the outcome of research predictions through whatever platforms and media are best-suited.
- Evaluate their own work and the work of others for accuracy, fairness, clarity, style, and correctness.

Required Materials

Textbooks and readings

There is no required text for this course. All readings will be made available on Blackboard.

Technology requirements

Links to articles, assignments, quizzes, and rubrics are located on Blackboard. To participate in learning activities and complete assignments, you will need:

- Access to a working computer that has a current operating system with updates installed, plus speakers or headphones to hear lecture presentations
- Reliable Internet access and a UofSC email account
- A current Internet browser that is compatible with Blackboard (Google Chrome is the recommended browser for Blackboard)
- Microsoft Word as your word processing program
- Reliable data storage for your work, such as a USB drive or Office365 OneDrive cloud storage

If your computer does not have Microsoft Word, Office 365 ProPlus package is available to you free of charge and allows you to install Word, Excel, PowerPoint, Outlook, OneNote, Publisher, and Access on up to 5 PCs or Macs and Office apps on other mobile devices including tablets. Office 365 also includes unlimited cloud storage on OneDrive. To download Office 365 ProPlus, log into your student (University) email through a web browser, choose Settings (top right corner), and select software. If you have further questions or need help with the software, please contact the Service Desk (https://www.sc.edu/about/offices_and_divisions/university_technology_services/support/servicedesk.php).

Minimal technical skills needed

Minimal technical skills are needed in this course. Most course work will be completed and submitted in Blackboard. Therefore, you must have consistent and reliable access to a computer and the Internet. The minimal technical skills you need to have include the ability to:

- Organize and save electronic files
- Use UofSC email and attached files
- Check email and Blackboard daily
- Download and upload documents
- Locate information with a browser
- Use Blackboard.

Evaluation

This class will use the standard USC grading scheme:

A	90-100%	**B+**	85-89.99%	**B**	80-84.99%
C+	75-79.99%	**C**	70-74.99%	**D+**	65-69.99%
D	60-64.99%	**F**	0-59.99%		

Assignments

The final grade in the class will tentatively consist of the following:

Quizzes (x2)	200 / 25%
Skills Assignments	160 / 20%
Media Criticism Paper	80 / 10%
Small Activities	160 / 20%
Final Project	200 / 25%
Total	800 / 100%

Quizzes

There will be two quizzes. These will be administered outside of class time via Blackboard and will include a series of open-ended questions. These quizzes will be non-cumulative, but much of the knowledge you gain in this class will build on prior lessons so you may find that mastering prior lessons is important for succeeding on the quizzes.

Skills Assignments

You will learn several technical skills throughout the semester, such as basic programming in R and the use of some other tools. There will be a series of assignments to assess your development of those skills.

Media Criticism Paper

This paper requires you to find a report describing the findings of research using big data in the popular press. You will then use your knowledge to critique this report, considering whether the claims were credible and the research performed ethically, among other issues.

Small Activities

In lieu of an attendance grade, there will be a number of activities performed on a short-term basis to assess your learning and ensure your continued engagement with the course. Some of these activities will be designed to help you progress on your final project.

Final Project

The course builds to a final project, which involves you doing some more hands-on work with big data *or* an in-depth analysis of a specific use of big data. There will be milestones throughout the semester in which students will show progress to ensure successful completion of the project.

Detailed explanations of the requirements for assignments will be provided as they come due.

Grade Disputes

Any dispute about a grade must be done within one week of the grade posting. You should compose an email, making clear that you are challenging the grade, with information about the assignment and details (using the rubric and guidelines) of why you feel you should receive a different score. There is no guarantee of a grade change in response to such a challenge, but you can rest assured that you will not be penalized even if additional errors are discovered.

Course Policies

Reasonable Accommodation Policy

Reasonable accommodations are available for students with a documented disability. If you have a disability and may need accommodations to fully participate in this class, contact the Student Disability Resource Center: 777-6142, TDD 777-6744, email sasds@mailbox.sc.edu, or stop by LeConte College Room 112A. All accommodations must be approved through the Student Disability Resource Center.

Late policy

Late work may be accepted with full credit under most circumstances. Communication with the instructor is essential for receiving credit on late work. The goal is to be flexible, but not fall behind in the course. This policy may be changed at short notice if students are struggling to keep up without the motivation of late penalties.

Faculty feedback and response time

Allow 10-14 days for grades on major assignments, although sometimes you will receive feedback sooner. In general, expect a response to emails within 24 hours on business days. If you haven't gotten a response after a couple of days, feel free to reach out again.

Written assignments

All written work must be typed and should conform to APA formatting, citing, and referencing guidelines (see http://www.apastyle.org/ and https://owl.english.purdue.edu/owl/resource/560/01/). Title pages and abstracts are never required, however. You will not be graded for adhering to all the details of APA formatting, but you must communicate clearly so as to avoid plagiarism and confusion.

Unless otherwise noted, assignments must be submitted no later than 11:59 p.m. on the assigned due date.

Academic misconduct

Honor Code

Every student has a role in maintaining the academic reputation of the university. It is imperative that you refrain from engaging in plagiarism, cheating, falsifying your work and/or assisting other students in violating the Honor Code. Two important components of the Honor Code:

- Faculty members are required to report potential violations of the Honor Code to the Office of Student Conduct and Academic Integrity.
- When a student is uncertain as to whether conduct would violate the Honor Code, it is their responsibility to seek clarification from the appropriate faculty member.

Your enrollment in this class signifies your willingness to accept these responsibilities and uphold the Honor Code of the University of South Carolina. Please review the Honor Code Policies. Any deviation from this expectation can result in a referral to the Office of Student Conduct and Academic Integrity.

Copyright

Lectures and course materials (which is inclusive of my presentations, tests, exams, outlines, and lecture notes) may be protected by copyright. You are encouraged to take notes and utilize course materials for your own educational purpose. However, you are not to reproduce or distribute this content without my expressed written permission. This includes sharing course materials to online social study sites like Course Hero and other services.

Students who publicly reproduce, distribute or modify course content maybe in violation of the university's Honor Code's Complicity policy, which states: sharing academic work with another student (either in person or electronically) without the permission of the instructor. To best understand the parameters around copyright and intellectual property review http://www.sc.edu/policies/acaf133.pdf.

Collaboration

A student's grades are to represent to what extent that individual student has mastered the course content. You should assume that you are to complete course work individually (without the use of another person or un-cited outside source) unless otherwise indicated by the instructor. It is your responsibility to seek clarification if you are unclear about what constitutes proper or improper collaboration. For skills assignments, you will be given a more specific definition of what constitutes collaboration because seeking outside help is one of the skills you should develop.

Reusing course materials

The use of previous semester course materials is not allowed in this course. This applies to homework, projects, quizzes and tests. Because these aids are not available to all students within the course, their use by any individual student undermines the fundamental principles of fairness and disrupts your professor's ability to accurately evaluate your work. Any potential violations will be forwarded to the Office of Student Conduct and Academic Integrity for review.

Diversity and inclusion

The university is committed to a campus environment that is inclusive, safe, and respectful for all persons, and one that fully embraces the Carolinian Creed. To that end, all course activities will be conducted in an atmosphere of friendly participation and interaction among colleagues, recognizing and appreciating the unique experiences, background, and point of view each student brings. You are expected at all times to apply the highest academic standards to this course and to treat others with dignity and respect.

Changing nature of this syllabus

The assignments, policies, and readings in this syllabus are subject to change at any time. If this occurs, the changes will be announced and an updated version of the syllabus will be posted to Blackboard.

Below is a summary of all changes:

- August 20: First public version

Unless otherwise specified, quizzes, discussion posts, and other assignments are due at 11:59 PM on the date they are due.

If the information on Blackboard contradicts this syllabus, assume the information on Blackboard is correct.

This schedule provides a broad overview of the materials you will read for the course. It does not include assignment due dates. More details will be available on Blackboard, where you will access any necessary materials.

Week 1, 8/23 – 8/29: What is big data?

Holmes, D. E. (2017a). Chapter 1: The data explosion. In *Big data: A very short introduction*. Oxford, United Kingdom: Oxford University Press.

Holmes, D. E. (2017b). Chapter 2: Why is big data special? In *Big data: A very short introduction*. Oxford, United Kingdom: Oxford University Press.

Kitchin, R. (2014). Chapter 4: Big data. In *The data revolution: Big data, open data, data infrastructures & their consequences*. Los Angeles, California: SAGE Publications.

Kitchin, R., & McArdle, G. (2016). What makes Big Data, Big Data? Exploring the ontological characteristics of 26 datasets. *Big Data & Society*, *3*, 1–10. https://doi.org/10.1177/2053951716631130

Week 2, 8/30 – 9/5: Digital media and the legacy media

Delfanti, A., & Arvidsson, A. (2019). Chapter 1: Media and digital technologies. In *Introduction to digital media* (pp. 3–20). Hoboken, NJ: Wiley Blackwell.

Nielsen, J. (1998, August 22). The end of legacy media (newspapers, magazines, books, TV networks). Jakob Nielsen's Alertbox. Retrieved from https://www.nngroup.com/articles/the-end-of-legacy-media-newspapers-magazines-books-tv-networks/

Week 3, 9/6 – 9/12: Social media

boyd, d. m., & Ellison, N. B. (2007). Social network sites: definition, history, and scholarship. *Journal of Computer-Mediated Communication*, *13*, 210–230. https://doi.org/10.1111/j.1083-6101.2007.00393.x

Lewis, K. (2015). Three fallacies of digital footprints. *Big Data & Society*, *2*, 2053951715602496. https://doi.org/10.1177/2053951715602496

Obar, J. A., & Wildman, S. (2015). Social media definition and the governance challenge: An introduction to the special issue. *Telecommunications Policy*, *39*, 745–750. https://doi.org/10.1016/j.telpol.2015.07.014

Week 4, 9/13 – 9/19: Uses of big data in mass communication

Frederik, J., & Martijn, M. (2019, November 6). The new dot com bubble is here: It's called online advertising. *The Correspondent*. Retrieved from https://thecorrespondent.com/100/the-new-dot-com-bubble-is-here-its-called-online-advertising/1560098100-4df106c5

Marr, B. (2016a). AirBnB: How big data is used to disrupt the hospitality industry. In *Big data in practice: How 45 successful companies used big data analytics to deliver extraordinary results* (pp. 163–167). West Sussex, United Kingdom: John Wiley and Sons Ltd.

Marr, B. (2016b). BBC: How big data is used in the media. In *Big data in practice: How 45 successful companies used big data analytics to deliver extraordinary results* (pp. 143–148). West Sussex, United Kingdom: John Wiley and Sons Ltd.

Marr, B. (2016c). Netflix: How Netflix used big data to give us the programmes we want. In *Big data in practice: How 45 successful companies used big data analytics to deliver extraordinary results* (pp. 17–23). West Sussex, United Kingdom: John Wiley and Sons Ltd.

Week 5, 9/20 – 9/26: Other institutional uses of big data

Angwin, J., Larson, J., Mattu, S., & Kirchner, L. (2016, May 23). Machine bias. *ProPublica*. Retrieved from https://www.propublica.org/article/machine-bias-risk-assessments-in-criminal-sentencing

Hill, K. (2020, January 18). The secretive company that might end privacy as we know it. *The New York Times*. Retrieved from https://www.nytimes.com/2020/01/18/technology/clearview-privacy-facial-recognition.html

O'Neil, C. (2016). Introduction. In *Weapons of math destruction: how big data increases inequality and threatens democracy*. New York: Crown.

O'Neil, C. (2016). Bomb parts: What is a model? In *Weapons of math destruction: how big data increases inequality and threatens democracy*. New York: Crown.

Week 6, 9/27 – 10/3: How do we learn from data, big or otherwise?

Finger, L., & Dutta, S. (2014a). Ask the right question. In *Ask, measure, learn: Using social media analytics to understand and influence customer behavior* (First Edition, pp. 217–232). Sebastopol: O'Reilly.

Finger, L., & Dutta, S. (2014b). Use the right data. In *Ask, measure, learn: Using social media analytics to understand and influence customer behavior* (First Edition, pp. 233–260). Sebastopol: O'Reilly.

Week 7, 10/4 – 10/10: Machine learning, AI, and other buzzwords

Fall break begins

Shane, J. (2019). What is AI? In *You look like a thing and I love you: How artificial intelligence works and why it's making the world a weirder place*. New York, NY: Voracious.

Week 8, 10/11 – 10/17: Machine learning, AI, and other buzzwords

Readings TBD

Week 9, 10/18 – 10/24: Social networks

In-class activities and materials

Week 10, 10/25 – 10/31: Sentiment Analysis

In-class activities and materials

Week 11, 11/1 – 11/7: Data in political campaigns

Baldwin-Philippi, J. (2017). The myths of data-driven campaigning. *Political Communication*, *34*, 627–633. doi: 10.1080/10584609.2017.1372999

Nickerson, D. W., & Rogers, T. (2014). Political campaigns and big data. *Journal of Economic Perspectives*, *28*, 51–74. doi: 10.1257/jep.28.2.51

Week 12, 11/8 – 11/14: Skill-building

In-class activities

Week 13, 11/15 – 11/21: Data access

Bruns, A. (2019). After the 'APIcalypse': Social media platforms and their fight against critical scholarly research. *Information, Communication & Society*, *22*, 1544–1566. doi: 10.1080/1369118X.2019.1637447

Week 14, 11/22 – 11/28: Free week / Thanksgiving

Week 15, 11/29 – 12/5: Final project prep