SYLLABUS

INSTRUCTOR

Dr. George Ray

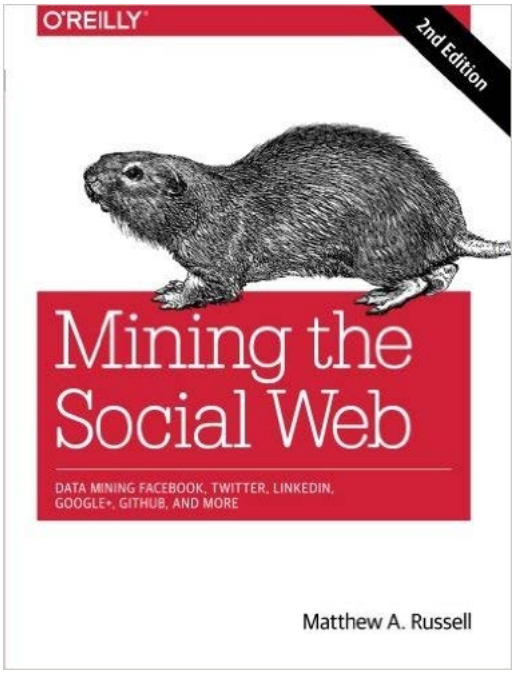
COURSE INFORMATION

Course Title: CMSC 491, Social Media Mining

Time & Place: MoWe 6:00 to 8:20; room TBA.

Office Hours: ITE 374, MoWe 5:30 to 6:00 and Sunday 3PM via Blackboard Collaborate

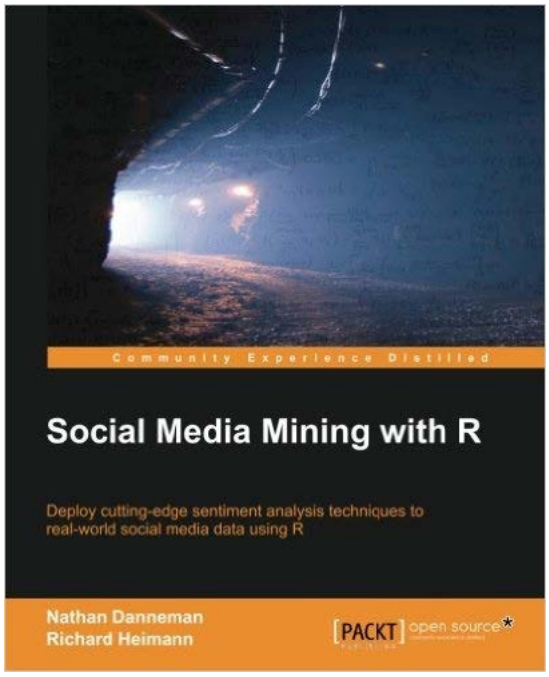
TEXTBOOKS



Mining the Social Web

O'Reilly Media; 2 edition (October 20, 2013)

By Matthew Russell



Social Media Mining with R

Packt Publishing; (March 24, 2014)

By Nathan Danneman and Richard Heimann

COURSE DESCRIPTION

Social media mining is a methodology to elicit meaningful strategic information from the firehose of data available on the social Web. People today are actively expressing themselves through the social media channels, and organizations are using social media to enhance their research, situational awareness, and integrated marketing communications. Social media provides organizations with empirical data to guide strategic planning.

In this course, students will learn to use application programming interfaces available on the Web: how to create authentication tokens, search, filter, and retrieve both the content of people's public interaction in a social media channel as well as the demographic and pyschographic data of those individuals. The students will further learn data mining techniques for classification, regression, clustering, deviation detection, association analysis, and evaluation of patterns mined from social data and apply them in individual and group projects.

PREREQUISITES

This course assumes a basic familiarity with statistics and linear algebra such as that provided in STAT 355 and MATH 221. Proficiency in a high level programming language such as that provided in CSMC 201 and 202 (we will be using R or Python) is required. An introduction to Python and R that is sufficient for the course will be provided.

OBJECTIVES

After completion of this course, students will:

- Understand the use cases for social media mining
- Apply methods for association analysis to social media mining
- Apply methods for classification to social media mining
- Apply methods for clustering to social media mining
- Apply methods for n-gram and custom grammars to social media mining
- Utilize social media APIs
- Apply principles for data visualization for presentation of findings

GRADING

The final grade will be computed from the following components:

2 Individual Projects	30%
1 Group Project	30%
2 Exams	40%
Total =	100%

The initial plan calls for 2 individual projects. Each individual project will be worth 15% of your grade. A group project will be worth 30%. There will be 1 midterm and a cumulative final, each worth 20%.

Your final letter grades will be based on the standard formula:

$0 \leq F < 60$, $60 \leq D < 70$, $70 \leq C < 80$, $80 \leq B < 90$, $90 \leq A \leq 100$

Depending upon the distribution of grades in the class, there may be adjustments in the students' favor, but under no circumstances will the letter grades be lower than in the standard formula. Grades will not be "curved" in the sense that the percentages of A's, B's and C's are not fixed.

Grades are given for work done *during* the semester; incomplete grades will only be given for medical illness or other such dire circumstances.

ATTENDANCE

You are expected to attend all classes. If you miss a class, you are responsible for getting the notes and any verbal information given during class from a fellow classmate.

PROJECTS

You will not acquire data mining skills by watching someone else work with various data sources. You must budget enough time to think about the assignments and then design solutions to them.

If you cannot complete an assignment, you should still submit your work. Partial credit will be given for reasonable effort. Late work will not be accepted.

You will be submitting your assignments and project electronically. Details will be explained in class before you need to submit your first project.

ACADEMIC INTEGRITY

By enrolling in this course, each student assumes the responsibilities of an active participant in UMBC's scholarly community in which everyone's academic work and behavior are held to the highest standards of honesty. Cheating, fabricating, plagiarism, and helping others to commit these acts are all forms of academic dishonesty and they are wrong. Academic misconduct could result in disciplinary action that may include, but is not limited to, suspension or dismissal. Full policies on academic integrity should be available in the UMBC Student Handbook, Faculty Handbook, or the UMBC Directory.

These policies recognize that students can learn productively from many sources including from other students in the class. Thus, policy allows small amounts of help but prohibits outright copying. Although, this leaves a gray area between "small amounts of help" and "outright copying", it is better that we live with some ambiguity than to have a clear-cut policy that deprives the students of productive learning opportunities. Students who have doubts about the propriety of an activity should consult the instructor.

Students who violate this academic integrity policy will receive a grade of 0 for that assignment, as well as a reduction of one full letter grade in the student's final course grade. A second violation will result in very dire consequences. In the case where one student copies the work of another student, both students are considered to have violated this policy. Here, copying includes not just verbatim copies, but also work that is substantially similar and could not have been produced independently. Furthermore, all parties concerned will have their prior homework and classwork checked.

Violations of this policy may be reported to the University's Academic Conduct Committee for further action. Egregious cases of cheating will be written up as a "more serious" infraction. In this case, you will not be allowed to drop the course. Also, a "more serious" infraction would appear as a permanent part of your student record and would be seen by potential employers when they ask for an official copy of your transcript.

EMAIL

In order to facilitate email communication, please observe the following guidelines for email sent to the instructor.

Make sure that the subject line of the email message clearly identifies its content (e.g., mention CMSC 491).

- Use your UMBC email account. (I really shouldn't discuss your grade with some random person on the internet just because he has an email address that resembles your name.)
- Use your full real name.
- Submit your work instead of attaching it to your message.