

CS 491/591: SOCIAL MEDIA COMPUTING

Instructor: Abdullah Mueen

Meetings: Tuesdays, Thursdays, 11:00AM-12:15PM

Class Room: Dane Smith Hall 134

Office: Farris 3020

Email: mueen in the CS or UNM domains;

Office Hours: Wednesdays and Thursdays, 9:00AM-10:30AM at the Zoom link and in office

Zoom Meeting ID: <https://unm.zoom.us/j/4596552426>

Meeting ID: 459 655 2426

Passcode: mEeTmUeEn

Description: This course covers various computing techniques on social media data. Techniques include text classification (e.g. sentiment), temporal analysis (e.g. trends and periods), network analysis (e.g. random walks on graphs) and stream analysis (e.g. synchronicity). Students will work on a project to gather hands-on experience in data collection, cleaning, processing and archiving. The course focuses on various aspects of social media from computational advertising to misinformation detection.

The course learning objectives include

- Familiarity with social media data
- Learning techniques to analyze various aspects of social media
- Gaining hands-on experience in cleaning, managing and processing social media data.

Knowledge of computer programming is required. Instructor assumes the students are familiar with Python programming language.

Grading: There will be

- Exam 30%
- Group project 40%
- Homework 30% (for CS 491) and 15% (for CS 591)
- Individual presentation 15% (for CS 591 only).

Lecture Schedule: A tentative weekly distribution of topics is given below. There will be re-arrangement for holidays.

Week 1:	Introduction to Social Media
Week 2:	Lab: Collecting Twitter Data (REST and Streaming)

Week 3:	Lab: Storing Twitter Data (MongoDB, Indexing)
Week 4:	Lab: Setting up programming environment
Week 5:	Theory: Network algorithms (Page Rank, Shortest Paths and Random Walks, Inference)
Week 6:	Theory: Temporal mining (Correlation, Synchronicity)
Week 7:	Theory: Text mining (Sentiment, Topic discovery)
Week 8:	Theory: Machine Learning on Social Media Data
Week 9:	Theory: Machine Learning on Social Media Data
Week 10:	Presentation: Three Graduate Student Presentations
Week 11:	Presentation: Three Graduate Student Presentations
Week 12:	Presentation: Three Graduate Student Presentations
Week 13:	Presentation: Three Graduate Student Presentations
Week 14:	Exam

Project: Each group will do one project. A group must have exactly two people (individual projects are not allowed). Project has two phases: **Proposal** and **Report**.

Proposal (Due: October 13, 2021): Each team will select a project involving social media data. In the proposal, each team will describe their project in the form of a research article containing sections: Abstract, Introduction, Dataset, Tasks, Expected Results. Each team will describe the dataset in detail, the objective of the project divided in two to four tasks and expected results in connection to the data domain. Teams are encouraged to select datasets from Mueen Lab's data archive. In addition, teams can select dataset from any publicly available social media data. Evaluation criteria will focus on feasibility, relevance, and complexity of the tasks.

Report (Due: December 10, 2021): Each team will submit a report and developed computer programs. Each team will describe their solution to the proposed tasks, describe results obtained and discuss the relevance of the results to online social media Teams will discuss how the obtained results match or mismatch with the Expected Results in Proposal.

Exam (November 23, 2021): Exam will be on topics covered in the theory lectures. Exam will be in-class at our regular meeting time. Exam will be closed note. There will be no online exam. There is no specific text book. Class notes are the best material to prepare for exam.

Homework: Three homework assignments will be given. Homework requires using social data mining tools in real-time to discover patterns or events of interest. Each homework assignment will require computer program submission and a short report submission.

Individual Presentation: Students enrolled in CS 591 will present research articles on social media mining. Each student will present an article of his/her interest for 15 minutes at a scheduled time. Students must consult with the instructor before selecting articles for presentation. Instructor will set schedules. Students in CS 491 do not need to present.

UNM Administrative Mandate on Required Vaccinations

All students, staff, and instructors are required by UNM Administrative Mandate on Required Vaccinations to be fully vaccinated for COVID-19 as soon as possible, but no later than September 30, 2021, and must provide proof of vaccination or of a UNM validated limited exemption or exemption no later than September 30, 2021 to the UNM vaccination verification site. Students seeking medical exemption from the vaccination policy must submit a request to the UNM verification site for review by the UNM Accessibility Resource Center. Students seeking religious exemption from the vaccination policy must submit a request for reasonable accommodation to the UNM verification site for review by the Compliance, Ethics, and Equal Opportunity Office. For further information on the requirement and on limited exemptions and exemptions, see the UNM Administrative Mandate on Required Vaccinations.

UNM Requirement on Masking in Indoor Spaces

All students, staff, and instructors are required to wear face masks in indoor classes, labs, studios and meetings on UNM campuses, see masking requirement. Qualified music students must follow appropriate specific mask policies issued by the Chair of the Department of Music and the Dean of the College of Fine Arts. Vaccinated and unvaccinated instructors teaching in classrooms must wear a mask when entering and leaving the classroom and when moving around the room. When vaccinated instructors are able to maintain at least six feet of distance, they may choose to remove their mask for the purpose of increased communication during instruction. Instructors who are not vaccinated (because of an approved medical or religious exemption), or who are not vaccinated yet, must wear their masks at all times. Students who do not wear a mask indoors on UNM campuses can expect to be asked to leave the classroom and to be dropped from a class if failure to wear a mask occurs more than once in that class. With the exception of the limited cases described above, students and employees who do not wear a mask in classrooms and other indoor public spaces on UNM campuses are subject to disciplinary actions.

Communication on change in modality: The President and Provost of UNM may direct that classes move to remote delivery at any time to preserve the health and safety of the students, instructor and community. Please check UNM Learn regularly for updates about our class and please check <https://bringbackthepack.unm.edu> regularly for general UNM updates about COVID-19 and the health of our community.

Accommodations: In accordance with University Policy 2310 and the Americans with Disabilities Act (ADA), academic accommodations may be made for any student who notifies the instructor of the need for an accommodation. It is imperative that you take the initiative to bring such needs to the instructor's attention, as I am not legally permitted to inquire. Students who may require assistance in emergency evacuations should contact the instructor as to the most appropriate procedures to follow. Contact Accessibility Resource Center at 277-3506 or arcsrvs@unm.edu for additional information.

UNM is committed to providing courses that are inclusive and accessible for all participants. As your instructor, it is my objective to facilitate an accessible classroom setting, in which students have full access and opportunity. If you are experiencing physical or academic barriers, or concerns related to mental health, physical health and/or COVID-19, please consult with me after class, via email/phone or during office hours. You are also encouraged to contact Accessibility Resource Center at arcsrvs@unm.edu or by phone 277-3506.

Title IX: Our classroom and our university should always be spaces of mutual respect, kindness, and support, without fear of discrimination, harassment, or violence. Should you ever need assistance or have concerns about incidents that violate this principle, please access the resources available to you on campus, especially the LoboRESPECT Advocacy Center and the support services listed on its website (<http://loborespect.unm.edu/>). Please note that, because UNM faculty, TAs, and GAs are considered "responsible employees" by the Department of Education, any disclosure of gender discrimination (including sexual harassment, sexual misconduct, and sexual violence) made to a faculty member, TA, or GA must be reported by that faculty member, TA, or GA to the university's Title IX coordinator at the Office of Compliance, Ethics, and Equal Opportunity. For more information on the campus policy regarding sexual misconduct, please see: <https://policy.unm.edu/university-policies/2000/2740.html>.