

EDS 231: Text and Sentiment Analysis for Environmental Problems

Quarter: Spring 2024

Units: 2

Grading: Letter

Instructor information, meeting times, & materials

Instructor: Mateo Robbins

Email: mjrobbins@ucsb.edu

Student hours: Wednesday 12:15pm - 1:15pm

The best way to contact me is: Slack or email

Class meets: NCEAS classroom

M 12:00pm - 1:15pm

W 11:00am - 12:15pm

April 1 - May 8, but no class week of April 29

Course website: https://maro406.github.io/EDS_231-text-sentiment/

Required textbook(s):

The course's readings will consist of a select chapters from these free ebooks:

- [Text Mining with R](#)
- [Supervised Machine Learning for Text Analysis in R](#)

Additional course requirements:

- Minimum MEDS device requirements (bring to all sessions + charger!)
- Up-to-date R and RStudio

Access, accommodations and conduct

Course conduct:

I view our course as a learning community, and I request your help in fostering a welcoming environment in the classroom where everyone feels supported, included, and comfortable participating.

[UCSB Code of Conduct](#)

Access and Accommodations: Please submit requests for accommodations often and early. It is never too late to apply for DSP accommodations. If you have any kind of disability, whether apparent or non-apparent, learning, emotional, physical, or cognitive you may be eligible to use formal accessibility services on campus. To arrange class-related accommodations, [please contact DSP](#). DSP will initiate communication about accommodations with faculty. By making a plan through DSP, appropriate accommodations can be implemented without disclosing your specific condition or diagnosis to course instructors.

Basic course information

Course description: This course will cover foundations and applications of natural language processing. Problem sets and class projects will leverage common and emerging text-based data sources relevant to environmental problems and will build capacity and experience in common tools, including text processing and classification, sentiment analysis, and natural language parsing.

Learning objectives: The goal of EDS 231 (Text and Sentiment Analysis for Environmental Problems) is to expose students to a range of text analysis and natural language processing data sources, techniques and tools that can be applied to environmental problems, and for them to develop an understanding of how to apply these tools.

During this course, students will:

- Become familiar with the R packages used in text-as-data applications
- Conduct and explain each step in the text data collection, analysis, and presentation pipeline

Course details

Course components: Class meetings will generally consist of the following components:

- Introduction of new analysis concepts through lecture
- Coding exercises implementing the new concepts

Assignments:

To reach the learning objectives for the course, students will complete a variety of assignments. There will be readings and/or labs to complete before class meetings most weeks.

Readings

- Read assigned text chapters to prepare for lecture

Labs

- Identify and/or access a new text data source
- Wrangle data
- Apply methods presented in class to new data
- Submit via Canvas as PDF or html

Tentative topics:

Session #	Lecture
1	Course intro and text analysis overview
2	Text data in R
3	Sentiment analysis I
4	Sentiment analysis I Lab
5	Topic Analysis
6	Topic Analysis Lab
7	Classification
8	Classification Lab
9	Sentiment analysis II

See course website for more details

Grades:

Grading for this course is organized as follows:

- In-class participation: 10%
 - Attendance, participation in discussion
- Assignments: 90%
 - Lab-style coding exercises

Additional student resources

The text below is provided by the UCSB Disabled Students Program.

Counseling and Psychological Services (CAPS). As a student you may experience a range of issues that can cause barriers to learning, such as strained relationships, increased anxiety, alcohol/drug problems, feeling down, difficulty concentrating and/or lack of motivation. These mental health concerns or stressful events may lead to diminished academic performance or reduce your ability to participate in daily activities. CAPS is available to assist you with addressing these and other concerns you may be experiencing. You can learn more about the broad range of confidential mental health services available on campus. They can be reached by phone at 805.893.4411, or online at <http://caps.sa.ucsb.edu>. The CAPS building is the pink building next to the Humanities and Social Science building (HSSB)

Food insecurity: <http://food.ucsb.edu/> includes the Cal Fresh Program <http://food.ucsb.edu/calfresh> and the Associated Students food bank <https://foodbank.as.ucsb.edu>

Resource Center for Sexual and Gender Diversity (RCSGD) in the SRB, offers a host of services for LGBTQI+ students including a library and many events throughout the year. <http://rcsgd.sa.ucsb.edu/>

Dream Scholars/Undocumented Student Services Program offers workshops, helps students find scholarships and financial support as well as providing community for our undocumented students. <http://www.sa.ucsb.edu/dreamscholars/home>

Campus Learning Assistance Services (CLAS) helps students grow academically by offering workshops, walk-in and pre-scheduled tutoring, and writing help both for native and non-native (ESL) English as a second language speakers. Over 50% of students will stop by CLAS at one time or another. <http://clas.sa.ucsb.edu>

Student Resource Building (SRB) houses many campus resources offices, including the African Diasporic Cultural resource Center, the American Indian Resource Center, the Asian Resource Center, the Middle Eastern Resource Center, the Non-Traditional and Re-Entry Student Resource Center. <http://www.sa.ucsb.edu/student-resource-building/home>

Multicultural Center (MCC), located in UCEN, hosts a wide variety of cultural events and educational programming throughout the year, including film showings, lectures, musical performances, and more: <http://mcc.sa.ucsb.edu/>

Campus Advocacy, Resources, & Education (CARE) offers 24/7 confidential support and advocacy in situations of sexual assault, dating and domestic violence, and stalking. Located in the SRB, they can be reached at 805.893.4613 or <http://wgse.sa.ucsb.edu/care/home>

Financial Crisis Response Team: If you are experiencing issues of housing insecurity contact the Financial Crisis Response Team at financialcrisis@sa.ucsb.edu to begin application for assistance.

Health and Wellness: Student well-being is integral to academic success, student development, and life satisfaction. On this website, students will find links to a range of services related to well-being such as: assistance with basic needs (food, housing, finances); counseling and physical health resources, daily wellness centers and programs; social connection, and personal safety. <https://wellbeing.ucsb.edu/>