

DRAFT: Details will change, but this should give you a good idea.

USC Annenberg



COMM 620/PR 599

Research Seminar on
Networked Social
Influence

Fall 2024, Mondays, 4:30-7:20

Section: 20909

Location: ANN 309

Zoom link, when approved

Instructor: Dmitri Williams &
Aimei Yang

Office: ANN 414k/ASC324B

Office Hours: By appointment,
usually before or after class.

Contact Info:

dcwillia@usc.edu,

aimei.yang@usc.edu

Course Description

This class combines acquiring mastery of a new method with the fundamentals of executing research and preparing a paper for submission to a competitive outlet. The class also provides hands-on project experiences and access to rare and massive business/gaming databases. The class gives students highly marketable skills that make them competitive job applicants for a wide range of positions.

Social Value (SV) is the measurement of people's impact on each other. It is the answer to the question "How much does someone affect someone else's choices?" It can be tested in any environment that has the data needed, including but not limited to retail, donations, media and entertainment settings. Seen at the individual level, SV is a tool to understand whether someone has influence, is likely to follow others, neither, or both. Seen at the macro level, it is a tool to understand how social any system is. With interventions, SV becomes a key outcome variable for experiments and comparisons.

This course will introduce students to the concept of SV in what is an early stage of discovery. We will focus on what we know, don't know, and might know. Next, we will build students' skills in the computational methods needed to run SV. Students do not need to have a background in computational methods, though basic familiarity with the concepts of correlation, regression and statistical significance are needed. The rest we'll teach you. We will

use very large commercial and noncommercial datasets made available by partners in video games and non-profit fundraising.

Class sessions will alternate week-by-week between hands-on training with these tools and the ideation, planning and execution of student-driven research projects. The technical training will include an introduction to Python, Machine Learning and Network Analysis. The research training will focus on supporting students solely and in teams as they execute on a research project using SV. This includes IRB certification, ideation and theory, conducting the research, as well as learning how to plan and write a paper for publication. The goal is for each student to produce one paper (some will collaborate and generate more) that is of high enough quality to submit to a competitive conference and/or publication. In most cases, your instructors will join the papers as the last authors. Prior semesters of this approach have consistently yielded at least one publication per student.

Student Learning Outcomes (with Bloom's Taxonomy Categories)

- Acquire a functional understanding of Social Value (Knowledge)
- Learn how to construct and analyze many types of social networks using python (Application, Analysis)
- Learn how to build and run machine learning models using python (Knowledge, Application)
- Learn how to conduct the SV analysis using python (no prior experience required) (Analysis)
- Learn highly valuable skills that computationally combine machine learning and network analysis (Knowledge, Synthesis))
- Develop a theoretical understanding of Social Value (Comprehension, Knowledge)
- Solve theoretical or applied gaming, marketing, advertising, public relations and other communication problems (Application)
- Participate in a research team
- Learn the basics of writing for conferences and journals (Application)
- Produce a publishable work
- Get peer feedback

Prerequisite(s), Co-Requisite(s), Concurrent Enrollment, Recommended Preparation:

- A lack of fear of numbers
- Familiarity with basic statistical concepts such as correlation, regression and statistical significance.

Course Notes

Laptop Policy and Hardware/Software Required

All undergraduate and graduate Annenberg majors and minors are required to have a PC or Apple laptop that can be used in Annenberg classes. Please refer to the [Annenberg Digital Lounge](#) for more information. To connect to USC's Secure Wireless network, please visit USC's [Information Technology Services](#) website.

Required Readings and Supplementary Materials

All books below have an e-copy available in our libraries. You DO NOT need to purchase them. Just log into our libraries and you will have access to these books and associated codes.

Lutz, M. (2013). Learning python: Powerful object-oriented programming." O'Reilly Media, Inc.".

Müller, A. C., & Guido, S. (2016). Introduction to machine learning with Python: a guide for data scientists. " O'Reilly Media, Inc.".

Stamile, C., Marzullo, A., & Deusebio, E. (2021). Graph Machine Learning: Take graph data to the next level by applying machine learning techniques and algorithms. Packt Publishing Ltd.

Zinoviev, D. (2018). Complex network analysis in Python:
Recognize-construct-visualize-analyze-interpret. Complex Network Analysis in Python, 1-200.

Required software: <https://www.anaconda.com/download>

All reading materials and example codes are on Brightspace.

Description and Assessment of Assignments, with Grading Rubrics

Because the class is focused on producing research, the majority of the grade will be drawn from the preparation, analysis and writing process, as well as the final paper, which should be ready for submission to a conference and/or journal.

Participation: 20%

Paper prep: Presentations, peer feedback, outlines, proposals, etc.: 30%

Research paper: 50%

Grading rubric. You have an approved topic that connects in some important way to your own interests or career path. You have a well-thought out hypothesis or research question. You collected original, empirical data to address it (or identified subsets in the supplied data). You used an appropriate method and executed on it at a level appropriate to your skill. You presented the results in a clear manner. You discussed the results, including tying them back to your intro material and hypothesis/RQ, considered their real-world import, identified any weaknesses, and considered what you or others might do next. You wrote professionally in the format given in class and adhered to the formatting, including references: any consistent style is fine, and if you don't have a preference, use APA 6th.

Connected learning objective: Conduct original empirical research on an aspect of interest

A note on the USC IRB

The USC ([Institutional Review Board](#)) monitors all human subjects research, meaning basically anything we do. We have a general IRB in place for our starter datasets and will add interested students to them via an addendum. If you want to exceed or deviate from our general IRB, submit a more specific application ASAP. Wait times can be 7-10 weeks, even though most of

what you would do would be labeled exempt and wouldn't go to full review. *You can't do this retroactively*, i.e. if you later decide it's cool and want to publish it, you can't. You'd need to get approval and collect new data from scratch.

Grading

a. Breakdown of Grade

Assignment	Points	% of Grade
Participation	20	20
Paper prep: Presentations, peer feedback, outlines, proposals, etc.	30	30
Final Paper	50	50
TOTAL	100	100%

b. Grading Scale

95% to 100%: A	80% to 83%: B-	67% to 69%: D+
90% to 94%: A-	77% to 79%: C+	64% to 66%: D
87% to 89%: B+	74% to 76%: C	60% to 63%: D-
84% to 86%: B	70% to 73%: C-	0% to 59%: F

c. Grading Standards

Only the highest-quality work earns an A. Average work can expect Bs and Cs, with significant underperforming resulting in Ds and Fs. High quality includes critical thinking rather than basic description and always includes professional writing.

d. Grading Timeline & Disputes

Assignments are typically graded and returned within 1-2 weeks. If you have a grade dispute, you're welcome to bring it to us, but no sooner than 48 hours after you receive your grade. Our standard approach is to first consider if we've made a mistake, and then to consider regrading it from scratch, which could raise or lower the score.

Assignment Submission Policy

A. All assignments are due on the dates specified. Lacking prior discussion and agreement with the instructor, usually with some kind of documentation, grades are reduced by 10% per day late, starting immediately at the time and date due.

B. Assignments are generally submitted via email by the start of class.

Classroom Policies

The classroom is a safe space for ideas and discussion, which requires that everyone does their part to create an [atmosphere of inclusion and acceptance](#). There will be no discrimination based on anyone's background, demographics, or politics, etc.

Generative AI Policy

AI is going to be part of your life after this class and into your careers. So, our mutual job is to have you learn how to use it intelligently while still making *you* intelligent. Learning to write and think are crucial parts of your training, and if you outsource the mental work you'll be less than you should be.

When using AI, keep in mind that:

Low quality prompts equal low-quality results.

Don't trust a thing it says. And, you're responsible.

To protect yourself from plagiarism, or accusations of utilizing AI, consider completing your work in Google Docs or another platform that leaves a digital trail of your changes to prove your work is yours and yours alone.

There are also issues of transparency—giving credit for work done by AI, or showing how you used it. Our policy is that you can use it, but you need to be clear you did, and how. If you use AI in your assignments, you must include a statement at the end (which won't count in any page totals) explaining how. If you want to use a template for that, here's a good one:

Usage	Tool Used (e.g., ChatGPT-4)	How you edited the output, if at all	Conversation Link (If available)
Topic selection			
Brainstorming and idea generation			
Research			
Source valuation			
Outlining/planning			
Drafting			
Media creation			
Revising			

Usage	Tool Used (e.g., ChatGPT-4)	How you edited the output, if at all	Conversation Link (If available)
Topic selection			
Brainstorming and idea generation			
Polishing			
Other			

Course Schedule: A Weekly Breakdown

Important note to students: Be advised that this syllabus is subject to change - and probably will change - based on the progress of the class, news events, outside developers' ever-changing priorities, and/or guest speaker availability.

Date	Class #	Session	Readings/Assignment
Aug 26	1	Introduction to Social Value Guest Visit, Date TBD from Doug Kaczmarek, Moore	Read the foundational paper. Watch the first orientation video Get registered with the IRB if you haven't already.
Sep. 2	Labor Day, No Class		
Sep. 9	2	Introduction to Python. Cover basic data types, objects, class, function, libraries.	Lutz, chapter 1-6 Start thinking about a research topic.
Sep. 16	3	Ideation session: Each student will present a raw idea for brainstorming Note: Partner companies may attend and give feedback	Come with a possible application or unanswered question, supported by at least one reading.
Sep. 23	4	Data analytics in Python. Cover Pandas, Numby, and Matplotlib	Optional reading: https://pandas.pydata.org/docs/user_guide/10min.html
Sep. 30	5	1st half: Theory fishing session: What theory could be used to support your forming idea? 2nd half: Pitching session workshop, with the goal of forming teams. Each student will lead one effort and ideally also second-author another.	Based on your raw ideas from week 3, come with potential theories in support. Also, prepare a brief pitch of your idea, with potential data and hypotheses.
Oct. 7	6	1st 2/3: Introduction to Social Network Analysis. Social network analysis. Data types, network construction, network data manipulation. Using NetworkX & Scikit-Network Last 1/3: Topics and methods finalized.	Zinoviev, Part I, II, III, A1 Complete short lay-level proposals for any partner-based data. Theory, hypotheses and survey questions (requested) finalized.
Oct. 14	7	Paper outlining: How to draft a paper that will get past Reviewer B Discussion of pre-registration, HARKing	Using this template , create an outline for your paper for sections I and II (Intro and Lit Review)
Oct. 21	8	Machine learning. Cover basic ideas of machine learning and unsupervised machine learning. Different types of basic models. Common machine learning programs scikit-learn. Machine learning in action.	Müller & Guido, chapter 2-5 Prepare and submit any additional or adenda for IRB.
Oct. 28	9	Network-based Learning: Combining machine learning and social networks	Stamile et al., chapter 2-4

Nov. 4	10	The SV Algorithm	
Nov. 11	Veteran's Day, no class		
Nov. 18	11	1st half: Discussion of Methods sections, workshopping of some outlines. 2nd half: Initial results/visualizations/first pass: Are the Hs supported? What do the results mean for theory?	Complete the Methods section of your outline. Complete your first round of analysis. Come with brief slides on results and theory implications
Nov. 25	12	More results sharing, feedback, and iteration, as needed	Second round of analysis, as needed. Complete the Discussion section of your outline. Come prepared to discuss.
Dec. 2	13	1st half: We workshop a sample of rough drafts 2nd half: The journal submission process. Where to submit, how to prepare a manuscript, what to know.	Rough drafts ready
TBD	14	Paper Workshop	Complete your first clean draft
Exam Period, TBD	15	Friendly Fire Conference Presentations Note: Partner companies may attend and give feedback	Prepare presentations

Policies and Procedures

Additional Policies

Instructor: Add any additional policies specific to your class that students should be aware of missed classes, attendance expectations, checking USC email, use of technology in the classroom, dress code, etc.

Communication

Instructor: Include a line that encourages students to contact the instructor outside of class and if they cannot come to office hours to arrange a meeting time by whichever method you prefer (email, text, etc.). In addition, include a timeline for replying to emails or calls (e.g., within 48 hours).

Statement on Academic Conduct and Support Systems

Academic Integrity:

The University of Southern California is a learning community committed to developing successful scholars and researchers dedicated to the pursuit of knowledge and the dissemination of ideas. Academic misconduct, which includes any act of dishonesty in the production or submission of academic work, compromises the integrity of the person who commits the act and can impugn the perceived integrity of the entire university community. It stands in opposition to the university's mission to research, educate, and contribute productively to our community and the world.

All students are expected to submit assignments that represent their own original work, and that have been prepared specifically for the course or section for which they have been submitted. You may not submit work written by others or "recycle" work prepared for other courses without obtaining written permission from the instructor(s).

Other violations of academic integrity include, but are not limited to, cheating, plagiarism, fabrication (e.g., falsifying data), collusion, knowingly assisting others in acts of academic dishonesty, and any act that gains or is intended to gain an unfair academic advantage.

The impact of academic dishonesty is far-reaching and is considered a serious offense against the university. All incidences of academic misconduct will be reported to the Office of Academic Integrity and could result in outcomes such as failure on the assignment, failure in the course, suspension, or even expulsion from the university.

For more information about academic integrity see [the student handbook](#) or the [Office of Academic Integrity's website](#), and university policies on [Research and Scholarship Misconduct](#).

The School of Communication maintains a commitment to the highest standards of ethical conduct and academic excellence. Any student found responsible for plagiarism, fabrication, cheating on examinations, or purchasing papers or other assignments will be reported to the Office of Student Judicial Affairs and Community Standards and may be dismissed from the School of Communication. There are no exceptions to the school's policy.

In addition, it is assumed that the work you submit for this course is work you have produced entirely by yourself and has not been previously produced by you for submission in another course or Learning Lab, without approval of the instructor.

Students and Disability Accommodations:

USC welcomes students with disabilities into all of the University's educational programs. The Office of Student Accessibility Services (OSAS) is responsible for the determination of appropriate accommodations for students who encounter disability-related barriers. Once a student has completed the OSAS process (registration, initial appointment, and submitted documentation) and accommodations are determined to be reasonable and appropriate, a Letter of Accommodation (LOA) will be available to generate for each course. The LOA must be given to each course instructor by the student and followed up with a discussion. This should be done as early in the semester as possible as accommodations are not retroactive. More information can be found at [osas.usc.edu](#). You may contact OSAS at (213) 740-0776 or via email at osasfrontdesk@usc.edu.

Support Systems:

[Counseling and Mental Health](#) - (213) 740-9355 – 24/7 on call

Free and confidential mental health treatment for students, including short-term psychotherapy, group counseling, stress fitness workshops, and crisis intervention.

[988 Suicide and Crisis Lifeline](#) - 988 for both calls and text messages – 24/7 on call

The 988 Suicide and Crisis Lifeline (formerly known as the National Suicide Prevention Lifeline) provides free and confidential emotional support to people in suicidal crisis or emotional distress 24 hours a day, 7 days a week, across the United States. The Lifeline is comprised of a national network of over 200 local crisis centers, combining custom local care and resources with national standards and best practices. The new, shorter phone number makes it easier for people to remember and access mental health crisis services (though the previous 1 (800) 273-8255 number will continue to function indefinitely) and represents a continued commitment to those in crisis.

[Relationship and Sexual Violence Prevention Services \(RSVP\)](#) - (213) 740-9355(WELL) – 24/7 on call

Free and confidential therapy services, workshops, and training for situations related to gender- and power-based harm (including sexual assault, intimate partner violence, and stalking).

[Office for Equity, Equal Opportunity, and Title IX \(EEO-TIX\)](#) - (213) 740-5086

Information about how to get help or help someone affected by harassment or discrimination, rights of protected classes, reporting options, and additional resources for students, faculty, staff, visitors, and applicants.

[Reporting Incidents of Bias or Harassment](#) - (213) 740-5086 or (213) 821-8298

Avenue to report incidents of bias, hate crimes, and microaggressions to the Office for Equity, Equal Opportunity, and Title for appropriate investigation, supportive measures, and response.

[The Office of Student Accessibility Services \(OSAS\)](#) - (213) 740-0776

OSAS ensures equal access for students with disabilities through providing academic accommodations and auxiliary aids in accordance with federal laws and university policy.

[USC Campus Support and Intervention](#) - (213) 740-0411

Assists students and families in resolving complex personal, financial, and academic issues adversely affecting their success as a student.

Diversity, Equity and Inclusion - (213) 740-2101

Information on events, programs and training, the Provost's Diversity and Inclusion Council, Diversity Liaisons for each academic school, chronology, participation, and various resources for students.

USC Emergency - UPC: (213) 740-4321, HSC: (323) 442-1000 – 24/7 on call

Emergency assistance and avenue to report a crime. Latest updates regarding safety, including ways in which instruction will be continued if an officially declared emergency makes travel to campus infeasible.

USC Department of Public Safety - UPC: (213) 740-6000, HSC: (323) 442-1200 – 24/7 on call

Non-emergency assistance or information.

Office of the Ombuds - (213) 821-9556 (UPC) / (323-442-0382 (HSC)

A safe and confidential place to share your USC-related issues with a University Ombuds who will work with you to explore options or paths to manage your concern.

Occupational Therapy Faculty Practice - (323) 442-2850 or otfp@med.usc.edu

Confidential Lifestyle Redesign services for USC students to support health promoting habits and routines that enhance quality of life and academic performance.

Annenberg Student Success Fund

<https://annenberg.usc.edu/current-students/resources/annenberg-scholarships-and-awards>

The Annenberg Student Success Fund is a donor-funded financial aid account available to USC Annenberg undergraduate and graduate students for non-tuition expenses related to extra- and co-curricular programs and opportunities.

Annenberg Student Emergency Aid Fund

<https://annenberg.usc.edu/current-students/resources/annenberg-scholarships-and-awards>

Awards are distributed to students experiencing unforeseen circumstances and emergencies impacting their ability to pay tuition or cover everyday living expenses. These awards are not intended to cover full-tuition expenses, but rather serve as bridge funding to guarantee students' continued enrollment at USC until other resources, such as scholarships or loans, become available. Students are encouraged to provide as much information in their application, as well as contact their academic advisor directly with questions about additional resources available to them.