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Information Transmission and Networks
ME & LE, CIDE

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Class meets on: Tu, 14:30–17:30 **Office hours:** I encourage you to talk among you and to me about course material. I suggest that you talk to me right after each class. I have office hours on We, 12:00–14:00, but I might be available at other times.

Description: This is an advanced elective class that covers topics on strategic communication, persuasion, media influence, advertising, opinion influence, and information transmission in networks.

Prerequisites: Your program series of micro and a tolerance for theory. Rather than just “choosing an elective,” at this point your academic goal should be to write a good dissertation. Allocate your time and efforts wisely and use it as an extra motivation in the final part of your studies. The practical goal of this course is to help you pick research questions and write your undergrad or master dissertations. Only through this course I will be able to help you as your dissertation advisor, though anyone interested can take the course. You should contribute fully to presentations and class discussion.

Objectives: For you: (a) exposure to topics that may be new to you and/or interesting; (b) practice with reading, digesting, and presenting freshly brewed material from a boosting and fancy field (which keeps many interesting and unanswered questions); (c) ideally, a new research paper (and become famous). For me (other than a paycheck): (a) organizing several related literatures; (b) understanding contemporary approaches at persuasion and communication in networks; (c) ideally, writing papers with smart, well prepared, and highly motivated students.

I hope to discuss the classical models of strategic communication (signaling, cheap talk, verifiable sender-receiver games, and persuasion), the design of good communication environments, and the ways in which local interactions in networks shape how information is transmitted.

Organization: You are going to do most of the interesting work. In the first weeks, I will present some required analytical tools and the basic models that we will subsequently cover through the readings. After that, each class will be run by one student organizer and I will want all participants to study the papers for the class in advance. In each of these classes, we will have a pizza seminar (sometimes with real food or at least with real coffee) where the student organizer will make a presentation of an article from the reading list below. I hope that the speakers act as discussion leaders rather than lecturers. Your presentations should not be technical and should address the following type of things:

1. What is the basic idea of the paper? How does the paper go about pursuing the idea?
2. How did you like it? What did you learn from the paper?
3. Do you see any problems or have any criticisms for the paper?
4. How would you extend, stretch, or push the paper further?
5. How would you propose an original research question using what you have learned from the paper?

As a complement to each presentation, I want each speaker to write a referee report on the paper that identifies its main contributions, its limitations, and the ways in which it can be improved. In addition to organizing your share of the classes and presenting, everyone is required to complete a research proposal (the length, topic, and number of coauthors are negotiable). In the interest of allocating wisely your time, I suggest that your research proposal be closely related to the papers that you have chosen for presentation and referee report from the reading list. After each pair of presentations, I will provide you with some written comments about the papers, as well as suggestions on the ways in which the models can be stretched or extended. You might wish to use those comments for your research proposals.

Grading: The grade for the course will be based on your class participation, presentations, referee reports, and the research proposal. I want you to view course material, readings, paper presentations, referee reports, and research proposals as complementary tools that help you write a good dissertation.

Research questions: I want the class to focus on problems that can be the basis of research papers. I will organize the class around the following type of research questions:

- How to organize decision making when different group members in an organization have different information? Who should make decisions?
- How do agents collect information when they make interrelated decisions? How do information acquisition decisions shape team choices or investments in stock market?
- How do politicians or advertisers offer information “packages” to voters or consumers in order to induce them to make specific voting or purchasing choices? How do informed agents “persuade” other, less informed, agents?
- How does advertising shape consumers’ opinions?
- Under which conditions will news providers serve useful information? Who pays for the news? Who pays for clarity in the news? Does competition lead to full or unbiased information? When is the media biased? What are the economic forces behind “fake news”?

- How do networks shape the way in which agents collect costly information?
- How do networks shape the way in which agents try to influence others?
- How do networks allow for communication when agents have conflicting tastes or different characteristics?
- When do networks allow for full revelation of information?
- When do networks allow for consensus in opinions?

We will make changes based on how the class continues and the interests develop.

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