

In the Name of God

# Game Theory

Marzie Nilipour,

Spring 2023

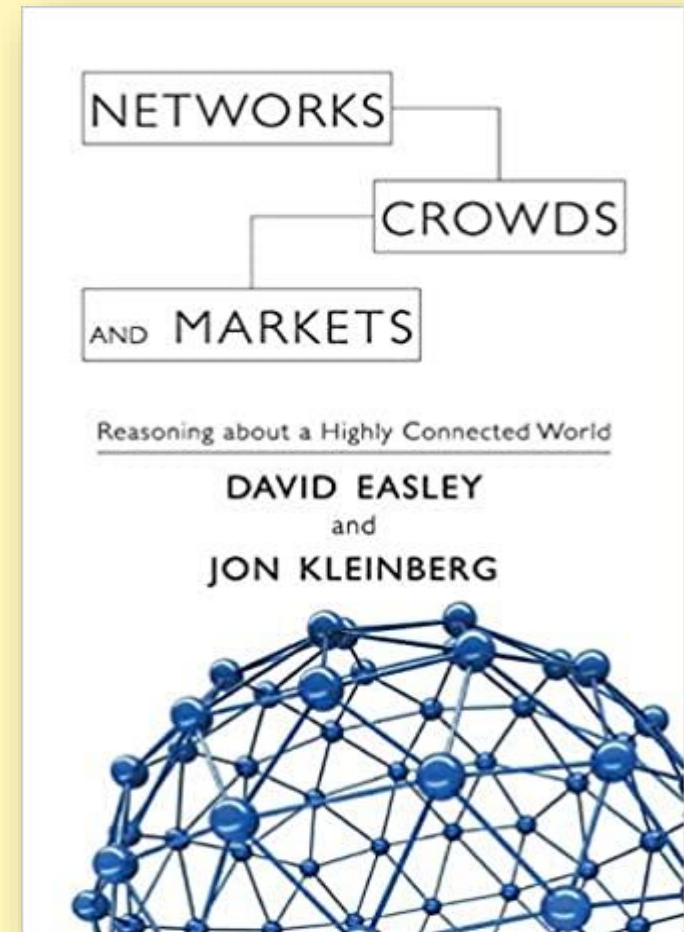
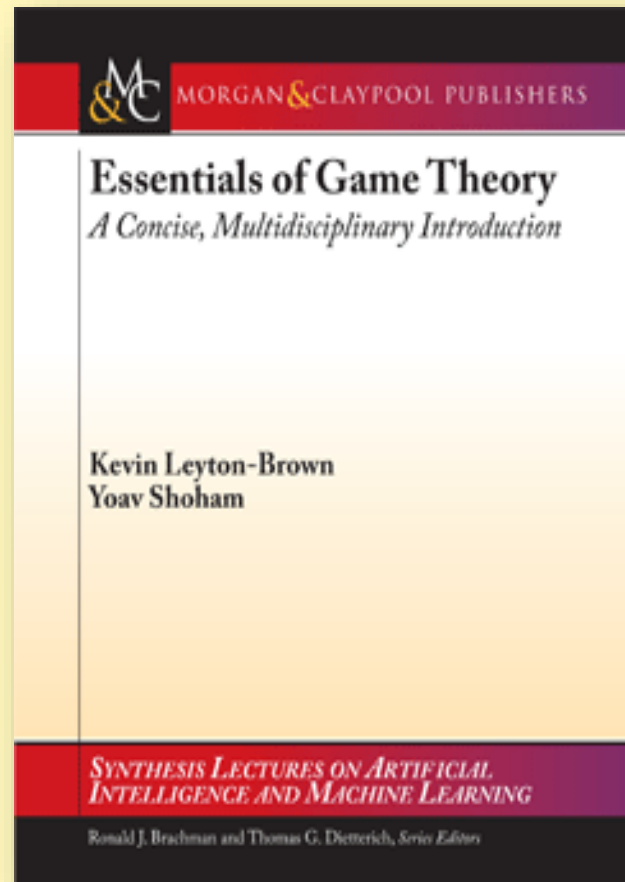
# What's a Game?

- Chess?
  - Poker?
  - XO>?
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- Informally, game is called a situation with interactions between two or more rational agents that anyone's decision depends on the decisions of others.

# Content

- Games in Normal Form
  - Simultaneous Actions
- Games in Extensive Form
  - Sequential Actions
- Repeated Games
  - Finite or Infinite
- Evolutionary Games
- Coalitional Games
- Bayesian Games
- Mechanism Design
  - Auctions

# Main Textbooks



# Course Evaluation

- Midterm (4): Max Between 2 tests
- Final (7)
- Theoretic Homeworks (4)
- Programming Homeworks (3)
- Quiz (2)
- Group Presentation (2)
- Extra (1): Review & Laptop
- Total (23)

## Class & Contact


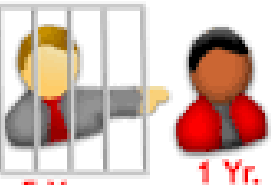
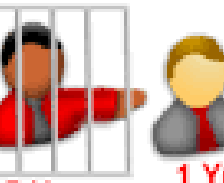

- Saturdays and Mondays: 10.30 to 11.45
- Ibne Sina, 21 الف
- Quera:
- Vclass: <https://vc.sharif.edu/ch/msn.nilipour>
- Marzie Nilipour: [msn.nilipour@gmail.com](mailto:msn.nilipour@gmail.com)
- Lab 507/3, CE Department
- Head TA:
  - [nimarossh@gmail.com](mailto:nimarossh@gmail.com),
  - [naser.kazemi2002@gmail.com](mailto:naser.kazemi2002@gmail.com)

Let's Play  
Game!

- Prisoner's Dilemma
  - If both silent: 2 year
  - If both confess: 3 year
  - If one silent & the other confess: 5, 1 year!

# Let's Play Game!

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|      |            | Henry  |   |
|------|------------|--|---|
|      |            | Not Guilty   | Guilty  |
| Dave | Not Guilty | <br>2 Years        | <br>5 Years 1 Yr. |
|      | Guilty     | <br>5 Years 1 Yr. | <br>3 Years      |



# Questions?

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