

Game Theory

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Program

1 Preliminaries

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1.2.- Games in Normal Form

1.2.1.- Definition

1.2.2.- Nash Equilibrium

1.2.3.- The Mixed Extension

1.2.4.- Two-person Zero-sum Games: The Minimax Theorem

1.2.5.- Fictitious Play

1.3.- Games in Extensive Form

1.3.1.- Definition

1.3.2.- Perfect Information: Backwards Induction and Kuhn's Theorem

1.3.3.- Imperfect Information

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2 Nash Equilibrium and Related Issues

2.1.- Dominant Strategies

2.2.- Elimination of Dominated Strategies

2.3.- Subgame Perfect Equilibrium

2.4.- Perfect Equilibrium

2.5.- Proper Equilibrium

2.6.- Stable Sets of Equilibria

2.7.- Rationalizable Strategic Behavior

2.8.- Correlated Equilibrium

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3 Repeated Games

3.1.- Strategies

3.2.- Payoffs

3.3.- “Folk” Theorems

3.4.- Bounded Rationality, Evolution and Learning

3.5.- Stochastic Games

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4 Games of Incomplete Information

4.1.- The Harsanyi Solution

4.2.- Bayesian-Nash Equilibrium

4.3.- Sequential Equilibrium

4.4.- Using Bayesian-Nash Equilibria to Justify Mixed Equilibria

4.5.- Signalling Games and Forward Induction

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5 Bargaining Theory

- 5.1.- The Bargaining Problem
- 5.2.- The Nash Bargaining Solution
- 5.3.- The Kalai-Smorodinsky Solution
- 5.4.- Strategic Bargaining

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6 Cooperative Games with Transferable Utility

- 6.1.- Stable Sets, Core, Bargaining Sets, and Kernel
- 6.2.- Shapley Value, Nucleolus, and other Values
- 6.3.- Division Rules and Solutions for the Bankruptcy Problem

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7 Cooperative Games with Non-Transferable Utility

7.1.- The Core

7.2.- The λ -transfer Extensions

7.3.- Bargaining and Value

7.4.- Market Games

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8 Miscellaneous

- 8.1.- Games with Infinitely Many Players
- 8.2.- Matching Models: Stability and Incentives
- 8.3.- Experiments on Game Theory
- 8.4.- Implementation

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