ETH
Eidgenössische Technische Hochschule Zürich
Swiss Federal Institute of Technology Zurich

Distributed Computing

Prof. R. Wattenhofer

Homo Moralis Plays a Game

How lucky! You were chosen to participate in a social experiment,[1] and must decide between two options: either to give $250 to yourself or $10 to all 100 other participants. Note, however, that all participants are faced with a similar choice: which button do you press?

Classically, game theory considers agents that are purely interested in their own material outcome (Homo Oeconomicus). However, experiments such as the above tend to show a higher degree of cooperation: moreover, they display another kind of rational reasoning, namely the Kantian categorical imperative *"act only according to that maxim whereby you can, at the same time, will that it should become a universal law"*.

In exciting recent developments,[2] it has been shown that agents giving weight to the "morality" of their action (Homo Moralis) are evolutionarily stable, i.e., there exist no mutant preferences inducing different behaviors that would, if entering the population in small proportions, obtain a better material payoff.

In this project, you will investigate the implications of such moral behaviors for classical results in game –and voting– theory. We will have weekly meetings to discuss progress, open questions, and the next steps.

Requirements: Strong motivation, ability to work independently, and interest in conducting exciting theoretical research. Solid mathematical background (ability to write valid proofs). Although not required, prior exposure to game theory is a substantial plus. Depending on the breadth of the project, coding skills might prove themselves useful. Coming up with your own original ideas is highly appreciated.

Interested? Please contact us for more details!

Contact

- Damien Berriaud: dberriaud@ethz.ch, ETZ G61.3
- Andrei Constantinescu: aconstantine@ethz.ch, ETZ G93

[1] This project was inspired by https://www.youtube.com/watch?v=GJAQCRJZmic which presents in an entertaining fashion the results and the philosophical implications of such an experiment. Although the video is in French, the automatic Youtube translation is of relatively good quality.

[2] See for example https://www.sciencedirect.com/science/article/pii/S0899825616300410.