



STRATEGIC MINDS: THE GAME THEORY OF COOPERATION, COORDINATION AND COLLABORATION

LOGISTICS

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April 15, 2024

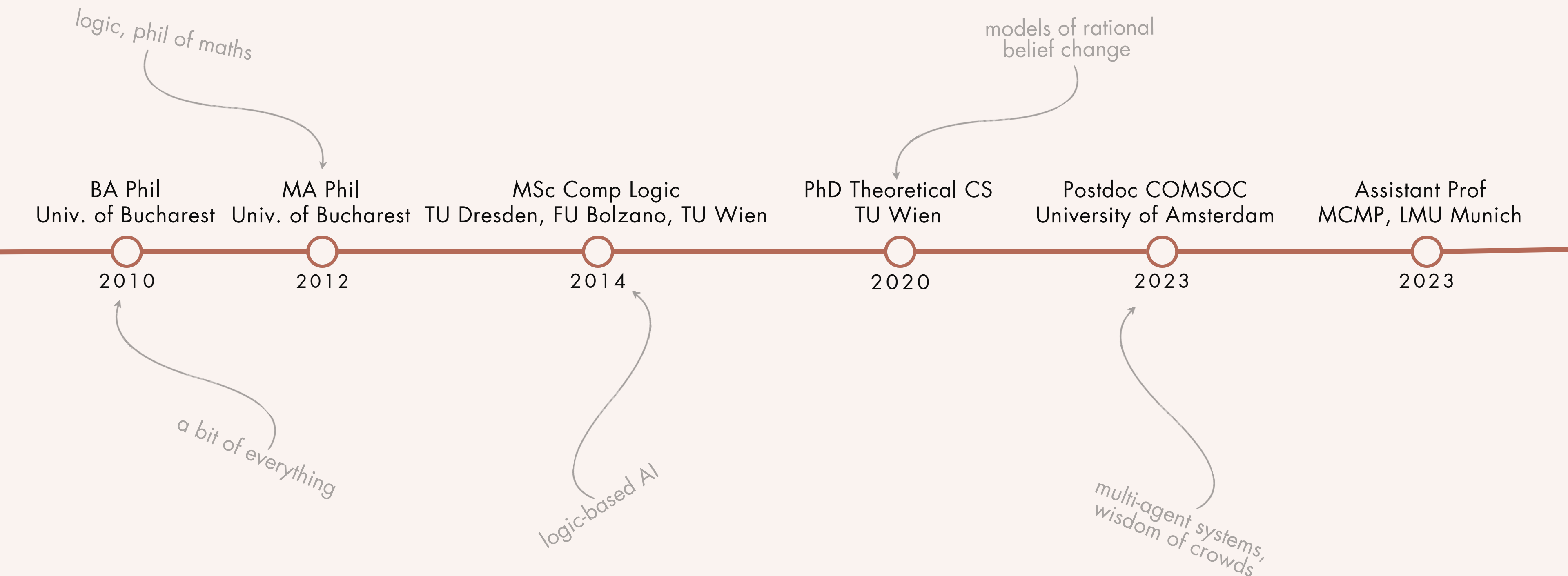
Let's get to know each other first.



ADRIAN HARET

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<https://adrianharet.github.io>



Your turn!

FORMAT

FORMAT

In-person, on campus, 2hrs each.

45 mins + 15 mins break (to ask questions, take naps) + 45 mins.

Slides will be posted online after the lectures.*

Adrian starts with spend the first weeks laying out the framework.

This will be followed by discussions on key papers, led by students.

* <https://adrianharet.github.io>

SCHEDULE

One lecture per week

Monday, 16:00 - 18:00, Room 021 (here!)

FIRST LECTURE

April 15, 2024 (now!)

NO LECTURE

May 20, 2024 (Whit Monday)

LAST LECTURE

July 15, 2024


EVALUATION

GRADE

50% class participation

- presenting a paper, leading the discussion

50% final essay

- due September 23, 2024
- research on some topic that caught your interest
- can be a review of existing literature, tackling a research question, coding up something (a simulation) and reporting the results
- potential research topics will be flagged during the lectures with the following symbol: 
- also a list on the course website (forthcoming!)
- in second half of the course, we will have a preliminary discussion on the chosen topic

ETIQUETTE

PERSONAL WORK

Don't plagiarize, etc.

RESPECT TOWARDS PEERS

Please.

QUESTIONS DURING LECTURES

Yes!

Feel free to interrupt and ask.

AIMS

SINK YOUR TEETH INTO THIS FASCINATING TOPIC

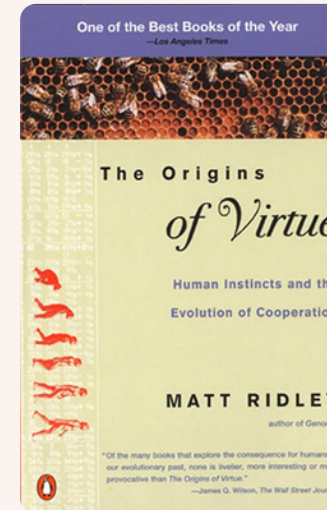
Very interdisciplinary topic, with broad reach.

Won't be able to touch on *all* the work, but (hopefully!) just enough.

USE THE GAME THEORY, LUKE

In particular, the final essay should reflect that aim!

POPULAR SCIENCE

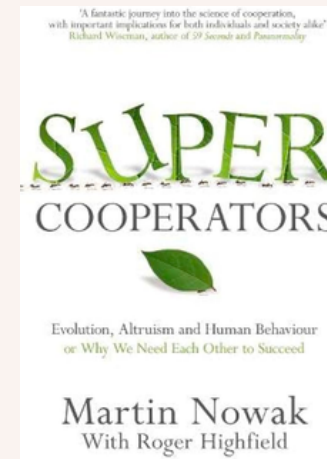


MATT RIDLEY

The Origins of Virtue: Human Instincts and The Evolution of Cooperation

Viking

1999

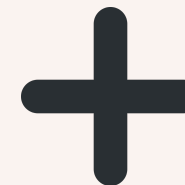


MARTIN NOWAK

SuperCooperators: Altruism, Evolution, and Why We Need Each Other to Succeed

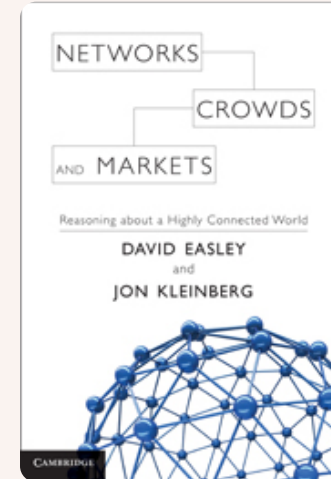
Simon and Schuster

2011

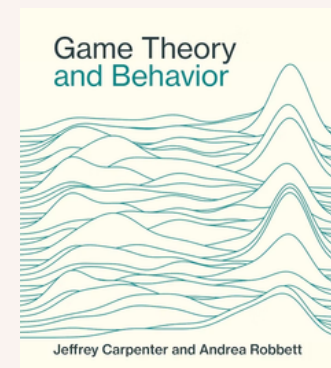


Slides, papers, videos: stay tuned!

USEFUL BOOKS



DAVID EASLEY & JON KLEINBERG
Networks, Crowds, and Markets
Cambridge University Press
2012
<https://www.cs.cornell.edu/home/kleinber/networks-book/networks-book.pdf>



JEFFREY CARPENTER & ANDREA ROBBETT
Game Theory and Behavior
MIT Press
2022

TOPICS

Basics of Game Theory

The Problem of Cooperation

- Kin Selection

- Reciprocity

- Indirect Reciprocity

- Punishment, Rewards

Coordination

Norms

Before we dive into the material let's
warm up with a little game!

Guessing Game



As many players as there are people in the room.

Everyone chooses a number between 1 and 100.

The winning guess is the choice closest to a half of the average of all guesses.

Guessing Game



As many players as there are people in the room.

Everyone chooses a number between 0 and 100.

The winning guess is the choice closest to a half of the average of all guesses.

how to think through this...



If everyone guesses 100 (the maximum), the average is 100.

In this case, the target is $(1/2) \cdot 100 = 50$.

No point in guessing anything over 50.

But if everyone thinks like this the maximum guess is 50 and the target cannot be greater than 25.

But if everyone thinks like *this*...

In the end, we should all be guessing 0.