

Multiagent Learning: dynamic games & applications

Citation for published version (APA):

Hennes, D. (2013). *Multiagent Learning: dynamic games & applications*. Maastricht University.

Document status and date:

Published: 01/01/2013

Document Version:

Publisher's PDF, also known as Version of record

Please check the document version of this publication:

- A submitted manuscript is the version of the article upon submission and before peer-review. There can be important differences between the submitted version and the official published version of record. People interested in the research are advised to contact the author for the final version of the publication, or visit the DOI to the publisher's website.
- The final author version and the galley proof are versions of the publication after peer review.
- The final published version features the final layout of the paper including the volume, issue and page numbers.

[Link to publication](#)

General rights

Copyright and moral rights for the publications made accessible in the public portal are retained by the authors and/or other copyright owners and it is a condition of accessing publications that users recognise and abide by the legal requirements associated with these rights.

- Users may download and print one copy of any publication from the public portal for the purpose of private study or research.
- You may not further distribute the material or use it for any profit-making activity or commercial gain
- You may freely distribute the URL identifying the publication in the public portal.

If the publication is distributed under the terms of Article 25fa of the Dutch Copyright Act, indicated by the "Taverne" license above, please follow below link for the End User Agreement:

www.umlib.nl/taverne-license

Take down policy

If you believe that this document breaches copyright please contact us at:

repository@maastrichtuniversity.nl

providing details and we will investigate your claim.

Propositions

Accompanying the dissertation “MULTIAGENT LEARNING – DYNAMIC GAMES & APPLICATIONS” by Daniel Hennes.

1. Fitness proportionate selection results in population dynamics that are independent of the behavior of individual learners (Chapter 3).
2. State-coupled replicator dynamics predict the dynamics of multiagent reinforcement learning in stochastic games (Chapter 4).
3. Decomposing complex strategic interactions into bilateral normal-form games facilitates the analysis of learning (Chapter 5).
4. Market returns do not monotonically increase as access to information increases (Chapter 6).
5. The reciprocal velocity obstacle allows for robust collision avoidance in heterogenous multiagent systems (Chapter 7).
6. The combination of differential and evolutionary game theory holds great potential for modeling multiagent reinforcement learning with continuous state and action spaces.
7. Mathematical models help to understand complex processes until they become too complex themselves.
8. There is a trade-off between predictability and optimality of behavior in multiagent learning.
9. Long-term autonomy requires lifelong learning.
10. If multiagent learning is the answer, we need to ask a better question.
11. Not the strategy, but rather the choice of vehicle determines the outcome in the game of chicken.