

# Andreas Haupt

## Curriculum Vitæ

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### Education

#### Massachusetts Institute of Technology, U.S.A.

2019-2024 Ph.D. in Engineering-Economic Systems (expected)

#### Rheinische Friedrich-Wilhelms-Universität Bonn, Germany

2018 M.Sc. in Economics (distinction)

2017 M.Sc. in Mathematics

2014 B.Sc. in Mathematics

#### Goethe-Universität Frankfurt, Germany

2019 B.Sc. in Computer Science

### Fields

Microeconomic Theory  
Market Design  
Industrial Organization  
Reinforcement Learning

### References

#### Alessandro Bonatti

Sloan School of Management  
Massachusetts Institute of Technology  
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#### Eric Maskin

Department of Economics  
Harvard University  
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#### Dylan Hadfield-Menell

Department of E.E. and Computer Science  
Massachusetts Institute of Technology  
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#### David Parkes

Department of Computer Science  
Harvard University  
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### Honors

2012-17 Full Scholarship (Villigst Foundation)

2019-20 Presidential Fellowship (Massachusetts Institute of Technology)

### Employment

Summer 2023 **Fellow**, *Federal Trade Commission*, Washington D.C., USA, [ftc.gov](http://ftc.gov)

Spring 2021 **Trainee**, *European Commission, Directorate-General for Competition, Unit C.6: Data Markets and Ecommerce*, Brussels, Belgium, [commission.europa.eu](http://commission.europa.eu)

2017-2019 **Fellow**, *Teach First Deutschland*, Groß-Gerau, Germany, [teachfirst.de](http://teachfirst.de)

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## Selected Papers

Haupt, A., & Hitzig, Z. (2022). Contextually private mechanisms. *Proceedings for the 23rd ACM Conference on Economics and Computation*.

**Abstract:** Consider a mechanism designer who employs a dynamic protocol to implement a choice rule. A protocol is contextually private if the designer only learns the private information necessary for computing the outcome. We characterize choice rules that have a contextually private protocol. When the designer is restricted to protocols that sequentially query agents one at a time, we show that few commonly studied choice rules have contextually private protocols. The first-price auction rule is a notable exception—the descending protocol is contextually private. We then partially characterize the class of maximally contextually private protocols for choice rules defined on ordered type spaces: protocols in this class pose to each agent a monotonic sequence of queries asking whether the agent's type exceeds a threshold. For the second-price auction rule, we present a protocol that improves on the contextual privacy of the ascending protocol.

Haupt, A., Bergemann, D., Bonatti, A., & Smolin, A. (2021). The optimality of add-on pricing [Proceedings of the 17th Conference on Web and Internet Economics]

Haupt, A., & Narayanan, A. (2022). *Risk aversion in learning algorithms and recommendation systems* [Revise and Resubmit, Games and Economic Behavior; Workshop on Attributing Model Behavior at Scale, Neurips '23]. arXiv: 2205.04619 [ECON.TH].

Haupt, A., Immorlica, N., & Lucier, B. (2023). *Voluntary carbon market design* [Marketplace Innovation Workshop '23]. arXiv: 2301.13449 [CS.GT].

**Abstract:** We consider optimal certification design in voluntary carbon markets. A certifier commits to a menu of methodologies to certify the quality of negative emissions activities. Project developers engaging in such activities choose an activity and a certification methodology. After the chosen methodologies are applied to certify activities, a competitive market for certificates determines prices. Gains from trade are maximized by offering all possible methodologies at cost, and addition of certificates always increases gains from trade. This result fails to hold if the objective is not maximization of gains from trade, but emissions mitigation, in particular if emissions mitigation and gains from trade are not aligned. The certifier's problem is equivalent to a non-linear screening problem with non-monotonic valuations. For any such screening problem, menus that maximize such general objectives are monotonic in objective and any addition of a certificate that violates monotonicity reduces the certifier's objective.

Haupt, A., Podimata, C., & Hadfield-Menell, D. (2023). *Recommending to strategic users* [Workshop on the Foundations of Responsible Computing '23]. arXiv: 2302.06559 [CS.CY].

**Abstract:** We model the interaction of a user and a recommendation system as a noisy signalling game. Users choose a consumption plan to maximize their present and future utility from consuming content. The consumption plan is noisily translated into realized consumption and observed by the recommendation system. Despite no conflict of interest, users accentuate their differences. Users in a statistical majority engage in less wasteful signaling of difference. There are equilibria in which universally liked content is not underconsumed by the minority with the goal of accentuating difference.

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## Invited Talks

- 2023 EconAI Workshop, Harvard Business School  
Multi-Agent Group, Deepmind London  
Center for Humans and Machines, Max Planck Institute Berlin  
Neural Reinforcement Learning Group, Max Planck Institute Tübingen  
EconCS Group, Harvard University  
Chair of Statistics, Hamburg University
- 2022 ILIAD Group, Stanford University  
Workshop on Algorithms, Learning and Economics, Naxos, Greece;  
EconCS Group, Harvard University
- 2021 EconCS Group, Northwestern University  
ACM Fairness, Accountability and Transparency (Full Tutorial)