

Seminar: Algorithmic Game Theory / Advanced Topics in Economics and Computation

- Kick-off Meeting -

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21.2.2018

Agenda

- Goals of the Seminar
- Some Logistics
- Quick Presentation of Topics/Papers
- Next Steps
- Questions

Goals of the Seminar

- Get a deep understanding of an advanced topic/paper in algorithmic game theory/economics and computation
- Focus on one technical paper (not an overview of ten papers!)
- Give a talk on this paper + lead discussion
- Act as a buddy to another student (also read paper, give feedback)

Prerequisites

- Successful completion of one of the following courses:
 - Algorithmic Game Theory (Penna/Dütting/Widmayer)
 - Economics and Computation (Seuken)
- If you have not successfully completed one of these courses, but believe to have the necessary knowledge (in algorithmic game theory, mechanism design, social choice theory, etc.), please talk to one of the instructors after class to get explicit permission!

Attendance Limitation

- We will present 12 topics
- If too many students want to take the seminar, we will choose randomly among all students, maintaining a balance among students from ETH and UZH

Preferences on Topics and Buddies

- We will put the list of topics online later today
- You will get the chance to submit your preferences on topics (and on topics for which you want to be a buddy)
- We will use RSD to assign 1) topics and 2) buddies

List of Topics/Papers

Paper Number	Details
1	Almost Envy-Freeness with General Valuations. Benjamin Plaut and Tim Roughgarden (SODA 2018) https://arxiv.org/pdf/1707.04769.pdf
2	Can Almost Everybody be Almost Happy? PCP for PPAD and the Inapproximability of Nash. Yakov Babichenko, Christos Papadimitriou, and Aviad Rubinfeld (ITCS 2016) https://arxiv.org/pdf/1504.02411.pdf
3	From Battlefields to Elections: Winning Strategies of Blotto and Auditing Games. Soheil Behnezhad, Avrim Blum, Mohammad Mahdian, Mahsa Derakhshan, Christos H. Papadimitriou, Saeed Seddighin, MohammadTaghi, Haji Aghayi, Ronald L. Rivest, Philip B. Stark (SODA 2018). http://behnezhad.com/static/papers/blotto-and-auditing.pdf
4	Makespan Minimization via Posted Prices. Michal Feldman, Amos Fiat, and Alan Roytman (EC 2017). https://arxiv.org/pdf/1705.01965.pdf
5	Online Prediction with Selfish Experts. Tim Roughgarden and Okke Schrijvers (NIPS 2017). http://papers.nips.cc/paper/6729-online-prediction-with-selfish-experts.pdf
6	GSP — The Cinderella of Mechanism Design. Christopher A. Wilkens, Ruggiero Cavallo, and Rad Niazadeh (WWW 2017). https://arxiv.org/pdf/1701.05946.pdf
7	Systemic Risk and Stability in Financial Networks. Daron Acemoglu, Asuman Ozdaglar, and Alireza Tahbaz-Salehi (AER 2015) https://www.aeaweb.org/articles?id=10.1257/aer.20130456
8	Network Formation and Systemic Risk. Selman Erol and Rakesh Vohra (2017). https://ssrn.com/abstract=2546310
9	Optimal auctions through deep learning. Paul Dütting, Zhe Feng, Harikrishna Narasimhan, David C. Parkes. (2017) https://arxiv.org/abs/1706.03459
10	Learning about the arrival of sales. Robin Mason and Juuso Valimaki (JET 2011). https://www.sciencedirect.com/science/article/pii/S0022053111000329
11	Competing Combinatorial Auctions. Thomas Kittsteiner, Marion Ott, and Richard Steinberg (2017). https://www.econstor.eu/handle/10419/171995
12	Simple Pricing Schemes for the Cloud. Ian A. Kash, Peter Key, and Warut Suksompong (2017). https://arxiv.org/abs/1705.08563

Next Steps (1/4): Assignment of Topics

- We will put these slides online on my teaching website within next 2 hours: <http://www.ifi.uzh.ch/ce/teaching/spring2018/seminar.html>
- Until today (21.2.2018), 23:59, send an email to Steffen Schuldenzucker (schuldenzucker@ifi.uzh.ch) containing the following information:
 - Name
 - Matrikelnummer (ETH/UZH)
 - Completion of AGT/E&C course (when?) or explicit consent of instructor?
 - Ordinal preferences for topics, with indifferences (e.g., 3a, 3b, 3c):
 - 1) Number of Topic A
 - 2) Number of Topic B
 - 3a) Number of Topic C
 - 3b) Number of Topic D
 - 3c) Number of Topic E
 - 4) Number of Topic F
- Tomorrow, we will use the Random Serial Dictatorship (RSD) Mechanism to assign topics to students
- We will send you your assigned topic, + the list of all assigned topics

Next Steps (2/4): Assignment of Buddies

- Within 24h, you need to confirm your participation in the seminar!
- Additionally, you need to send us your buddy topic preferences from among the list of all topics that were given out, using the same format as before.
- We will again use RSD to assign buddies, and send you your buddy topic assignment
- All assignments will also say who is the advisor for that topic (Dr. Penna, Prof. Seuken, or a PhD student or postdoc)

Next Steps (3/4): Preparing a Manuscript + Talk

- Read your paper (and related papers to understand the main paper)
- Write manuscript (~10 pages), like a „speaker’s manuscript“, i.e., how would you present it during the seminar (e.g., motivation, formal model, selected most interesting proofs)
→ see <http://www.ifi.uzh.ch/ce/teaching/spring2018/seminar.html> for details!
- **Send your manuscript to your buddy + to the advisor (Prof. Widmayer, Prof. Seuken, PhD student/postdoc) 4 weeks before your talk**
- **Meet with advisor and buddy ~3 weeks before your talk to receive feedback**
- Meet with buddy to do practice talk and receive additional feedback on manuscript and practice talk
- **Until the seminar day: submit final version of manuscript!**
- Give talk (20min) + lead discussion (10min), on
 - Friday, 18.05.2018, 9:00 – ca. 18:30; location: ETH CAB H52 (this room)
- Participate actively in the discussions of the other talks

Next Steps (4/4): Acting as a Buddy

- Read the paper of your buddy
- Read the manuscript of your buddy before the meeting with the advisor
- In the meeting, show that you have a good understanding of the paper and the manuscript, and give feedback on the manuscript!
- Later, meet again with buddy, give more detailed feedback on manuscript, attend practice talk, give detailed feedback on practice talk, and on slides, etc.
- Be active in the discussion part of the seminar

Grading will be based on

- Presentation: 40%
- Manuscript: 30%
- Buddy: 20%
- Seminar participation: 10%

Questions?

- More information:
<http://www.ifi.uzh.ch/ce/teaching/spring2018/seminar.html>
- More questions? → email: schuldenzucker@ifi.uzh.ch
- Some useful pointers:
 - How to read a paper:
 - [Focus questions](#) to help identify the main contributions of a paper, a
 - [Survival kit](#) for reading the technical sections, and a
 - [Three-pass approach](#) to tie it all together.
 - How to give a talk:
 - [These two](#) articles have a number of good suggestions.
 - [This video](#) is pretty good as well.