

## Vasilis Syrgkanis, Microsoft Research, NY

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CONTACT INFORMATION	250 North 10th St., Apt. 631 Brooklyn, NY 11211 USA	Telephone: 607-280-8704 E-mail: <a href="mailto:bsyrgkanis@gmail.com">bsyrgkanis@gmail.com</a> Web: <a href="http://research.microsoft.com/en-us/um/people/vasy/">research.microsoft.com/en-us/um/people/vasy/</a>
RESEARCH INTERESTS	My research lies at the intersection of computer science and economics. I am interested in the areas of algorithms, game theory, machine learning, mechanism design, econometrics, data science, network science. On the application side, I am interested in the game theoretic foundations of electronic markets, with an emphasis on the design and analysis of simple, distributed and efficient marketplaces.	
PRIMARY EMPLOYMENT	<b>Researcher</b> <b>Microsoft Research, New England</b>	<b>June 2016 - Present</b>
	<b>Postdoctoral Researcher</b> <b>Microsoft Research, NYC</b>	<b>August 2014 - June 2016</b>
EDUCATION	<b>PhD in Computer Science</b> <b>Cornell University</b> , Department of Computer Science - <i>Thesis</i> : Efficiency of Mechanisms in Complex Markets - <i>Advisor</i> : Prof. Éva Tardos - <i>Thesis Committee</i> : Éva Tardos, Larry Blume, Robert Kleinberg, Emin Gun Sirer - <i>GPA</i> : <b>4.048/4</b>	<b>August 2009 - August 2014</b>
	<b>Diploma in Engineering</b> <b>National Technical University of Athens, Greece</b> School of Electrical and Computer Engineering - <i>Major</i> : Computer Science and Computer Engineering - <i>Minor</i> : Control Theory and Networks - <i>Thesis</i> : Equilibria in Congestion Game Models: Existence, Complexity and Efficiency - <i>Thesis Committee</i> : Stathis Zachos, Aris Pagourtzis, Dimitris Fotakis - <i>GPA</i> : <b>9.66/10, 10/10</b> (major GPA) ( <b>top 1%</b> )	<b>September 2004 to July 2009</b>
HONORS AND AWARDS	<b>Best spotlight talk award</b> , 10th Annual Machine Learning Symposium, New York Academy of Sciences, <b>2016</b> <b>Best paper award</b> , 29th Conference on Neural Inf. Proc. Systems, <b>NIPS 2015</b> <b>Best paper award</b> , 16th ACM Conference on Economics and Computation, <b>EC 2015</b> <b>Simons Foundation Fellowship</b> , <b>2012-2014</b> <b>Facebook Fellowship Finalist</b> , <b>2012</b> <b>Sarafi's Award</b> for ranking 1st in the 4th year of studies <b>2007-2008</b> <b>Award by the Greek State Scholarship Foundation</b> for ranking 1st among 500 students of my department during the 4th year of my studies <b>2007-2008</b> <b>"Papakyriakopoulos" Award</b> for excellence in Mathematics among the Electrical and Computer Engineering students, <b>2005-2006</b>	
RESEARCH EXPERIENCE	<b>Research Intern, Microsoft Research, New England</b> <b>Research Intern, Microsoft Research, New England</b> <b>Research Intern, Microsoft Research, Cambridge, UK</b>	<b>May-August 2013</b> <b>May-August 2012</b> <b>June-August 2011</b>
PUBLICATIONS	28. Constantinos Daskalakis, Vasilis Syrgkanis <i>Learning in Auctions: Regret is Hard, Envy is Easy</i> 57th Annual IEEE Symposium on Foundations of Computer Science, <b>FOCS 2016</b>	
	27. Yishay Mansour, Aleksandrs Slivkins, Vasilis Syrgkanis, Steven Wu <i>Bayesian Exploration: Incentivizing Exploration in Bayesian Games</i>	

- 17th ACM Conference on Economics and Computation, **EC 2016**
26. Vasilis Syrgkanis, Akshay Krishnamurthy, Robert E. Schapire  
*Efficient Algorithms for Adversarial Contextual Learning*  
33rd International Conference on Machine Learning, **ICML 2016**  
Preliminary version at 10th Annual Machine Learning Symposium, New York  
Academy of Sciences, March 2016, **Best spotlight talk award**
  25. David M. Pennock, Vasilis Syrgkanis, Jennifer Wortman Vaughan  
*Bounded Rationality in Wagering Mechanisms*  
2016 Conference on Uncertainty in Artificial Intelligence, **UAI 2016**
  24. Michal Feldman, Nicole Immorlica, Brendan Lucier, Tim Roughgarden, Vasilis  
Syrgkanis  
*The Price of Anarchy in Large Games*  
48th ACM Symposium on Theory of Computing, **STOC 2016**
  23. Thodoris Lykouris, Vasilis Syrgkanis, Éva Tardos  
*Learning and Efficiency in Games with Dynamic Population*  
26th ACM-SIAM Symposium on Discrete Algorithms, **SODA 2016**
  22. Vasilis Syrgkanis, Alekh Agarwal, Haipeng Luo, Robert E. Schapire  
*Fast Convergence of Regularized Learning in Games*  
29th Annual Conference on Neural Information Processing Systems, **NIPS 2015**  
**Best paper award**
  21. Jason Hartline, Vasilis Syrgkanis, Éva Tardos  
*No-Regret Learning in Bayesian Games*  
29th Annual Conference on Neural Information Processing Systems, **NIPS 2015**
  20. Denis Nekipelov, Vasilis Syrgkanis, Éva Tardos  
*Econometrics for Learning Agents*  
16th ACM Conference on Economics and Computation, **EC 2015**  
**Best paper award**
  19. Vasilis Syrgkanis, David Kempe, Éva Tardos  
*Information Asymmetries in Common Value Auctions with Discrete Signals*  
16th ACM Conference on Economics and Computation, **EC 2015**
  18. Nikhil Devanur, Jamie Morgenstern, Vasilis Syrgkanis, Matt Weinberg  
*Simple Auctions with Simple Strategies*  
16th ACM Conference on Economics and Computation, **EC 2015**
  17. Brendan Lucier, Vasilis Syrgkanis  
*Greedy Algorithms make Efficient Mechanisms*  
16th ACM Conference on Economics and Computation, **EC 2015**
  16. Yishay Mansour, Alex Slivkins, Vasilis Syrgkanis  
*Bayesian Incentive-Compatible Bandit Exploration*  
16th ACM Conference on Economics and Computation, **EC 2015**
  15. Nicole Immorlica, Greg Stoddard, Vasilis Syrgkanis  
*Social Status and Badge Design*  
25th World Wide Web Conference, **WWW 2015**  
Preliminary versions at the NBER Market Design Working Group Meeting 2013,  
NIPS'13 Workshop on Crowdsourcing, EC'14 Workshop on Social Computing and  
User Generated Content

14. Michal Feldman, Uriel Feige, Nicole Immorlica, Rani Izsak, Brendan Lucier, Vasilis Syrgkanis  
*A Unifying Hierarchy of Valuations with Complements and Substitutes*  
 29th AAAI Conference on Artificial Intelligence, **AAAI 2015**  
 Under submission to the *SIAM Journal on Computing*
13. Yoram Bachrach, Vasilis Syrgkanis, Éva Tardos, Milan Vojnović  
*Strong Price of Anarchy, Utility Games and Coalitional Dynamics*  
 7th International Symposium on Algorithmic Game Theory, **SAGT 2014**
12. Vasilis Syrgkanis, Eva Tardos  
*Composable and Efficient Mechanisms*  
 45th ACM Symposium on the Theory of Computing, **STOC 2013**
11. Hu Fu, Brendan Lucier, Balasubramanian Sivan, Vasilis Syrgkanis  
*Cost-Recovering Bayesian Algorithmic Mechanism Design*  
 14th ACM Conference on Electronic Commerce, **EC 2013**
10. Balasubramanian Sivan, Vasilis Syrgkanis  
*Vickrey Auctions for Irregular Distributions*  
 9th Conference on Web and Internet Economics, **WINE 2013**
9. Michal Feldman, Brendan Lucier, Vasilis Syrgkanis  
*Limits of Efficiency in Sequential Auctions*  
 9th Conference on Web and Internet Economics, **WINE 2013**
8. Brendan Lucier, Yaron Singer, Vasilis Syrgkanis, Éva Tardos  
*Equilibrium in Combinatorial Public Projects*  
 9th Conference on Web and Internet Economics, **WINE 2013**
7. Yoram Bachrach, Vasilis Syrgkanis, Milan Vojnović  
*Incentives and Efficiency in Uncertain Collaborative Environments*  
 9th Conference on Web and Internet Economics, **WINE 2013**
6. Vasilis Syrgkanis  
*Bayesian Games and the Smoothness Framework*  
 arXiv:1203.5155 March 2012
5. Vasilis Syrgkanis, Éva Tardos  
*Bayesian Sequential Auctions*  
 13th ACM Conference on Electronic Commerce, **EC 2012**
4. Renato Paes Leme, Vasilis Syrgkanis, Éva Tardos  
*Sequential Auctions and Externalities*  
 23rd ACM Symposium on Discrete Algorithms, **SODA 2012**
3. Renato Paes Leme, Vasilis Syrgkanis, Éva Tardos  
*The Curse of Simultaneity*  
 3rd ACM Conf. on Innovations in Theoretical Computer Science, **ITCS 2012**
2. Balasubramanian Sivan, Vasilis Syrgkanis, Omer Tamuz  
*Lower Bounds on Revenue of Approximately Optimal Auctions*  
 8th Workshop on Internet & Network Economics, **WINE 2012**
1. Vasilis Syrgkanis  
*The Complexity of Equilibria in Cost Sharing Games*  
 Sixth Workshop on Internet & Network Economics, **WINE 2010**

UNDER  
SUBMISSION

5. Darrell Hoy, Denis Nekipelov, Vasilis Syrgkanis  
*Robust Data-Driven Efficiency Guarantees in Auctions*  
Preliminary version at 1st EC'15 Workshop on Algorithmic Game Theory and Data Science
4. Nikhil Devanur, Balasubramanian Sivan, Vasilis Syrgkanis  
*Multi-Parameter Auctions with Online Supply*
3. Takehiro Oyakawa, Amy Greenwald, Vasilis Syrgkanis  
*Production Maximization in Energy Markets*
2. Vasilis Syrgkanis  
*Price of Stability in Games of Incomplete Information*
1. Vasilis Syrgkanis, Johannes Gehrke  
*Pricing Queries (Approximately) Optimally*

WORKING PAPERS

1. Matt Goldman, Justin Rao, Vasilis Syrgkanis  
*Empirical Analysis of User Behavior in Sponsored Search*  
Working Paper, 2015

SURVEYS AND  
INVITED PAPERS

3. Tim Roughgarden, Vasilis Syrgkanis, Éva Tardos  
*Price of Anarchy in Auctions*  
Invited to Journal of Artificial Intelligence, working paper, 2015
2. Vasilis Syrgkanis  
*Algorithmic Game Theory and Econometrics*  
SIGecom Exchanges, June 2015
1. Renato Paes Leme, Vasilis Syrgkanis, Éva Tardos  
*The Dining Bidder Problem: a la russe et a la francaise*  
SIGecom Exchanges, December 2012

TUTORIALS

*Algorithmic Game Theory and Data Science*, 16th ACM Conference on Economics and Computation (EC 2016), Maastricht, July 2016 (Co-taught with Jamie Morgenstern)

*Price of Anarchy in Auctions*, 9th Conference on Web and Internet Economics (WINE), Harvard University, December 2013 (Co-taught with Jason Hartline)

INVITED  
PRESENTATIONS

*Learning in Strategic Environments: Theory and Data*

- UIUC, CS Colloquium, March 2016
  - Duke University, CS Colloquium, March 2016
  - Northwestern University, CS Colloquium, March 2016
  - Caltech CMS, Frontiers Workshop, March 2016
  - UMass Amherst, CS Colloquium, March 2016
  - Google Research, NYC, March 2016
  - Columbia University, CS Colloquium, February 2016
  - MIT, EECS/IDSS Special Seminar, February 2016
  - Microsoft Research, New England, Colloquium, February 2016
  - EPFL, IC Colloquium, February 2016
  - Institute of Science and Technology (IST) Austria, CS Colloquium, January 2016
- Econometrics for Learning Agents*
- INFORMS, November 2015
  - Simons Center Seminar on “Simplicity and Complexity in Economics”, October 2015

- Google Theory Seminar, September 2015
- MSR Economics Seminar, August 2015
- Learning and Efficiency in Games with Dynamic Population*
- University of Pennsylvania, CS Theory Seminar, May 2015
- Price of Anarchy in Auctions*
- University of Washington, CS Theory Seminar, March 2015
- Bayesian Incentive-Compatible Exploration*
- Caltech, Workshop on Information and Social Economics, August 2016
- MSR Redmond, Theory lunch, March 2015
- Composable and Efficient Mechanisms*
- Northwestern University, CS Colloquium, April 2014
- MSR Redmond, Theory group, March 2014
- MSR NYC, February 2014
- INFORMS, October 2013
- Harvard University, EconCS Seminar, September 2013
- MSR New England, Game Theory and Computation Seminar, August 2013
- Dagstuhl Seminar on the Interface of Computation, Game Theory, and Economics, April 2013
- Northwestern University, Theory Seminar, December 2012
- Information Asymmetries in Common Value Auctions with Discrete Signals*
- INFORMS, “Information Asymmetries in Common Value Auctions with Discrete Signals”, October 2013
- Second Cambridge Area Economics and Computation Day, “Information Asymmetries in Common Value Auctions with Discrete Signals”, April 2013
- Fifth New York Computer Science and Economics Day, “Information Asymmetries in Common Value Auctions: How (not) to sell your Cookies”. December 2012
- Barbados, Bellairs Workshop on Algorithmic Game Theory, “Selling Third-Party Information in Common Value Auctions”, April 2012
- Sequential Auctions and Externalities*
- Fourth New York Computer Science and Economics Day, “Sequential Auctions and Externalities”, September 2011
- International Symposium on Mathematical Programming (ISMP) 2012, “Efficiency in Sequential Auctions”, August 2012
- Social Status and Badge Design*
- NBER Market Design Working Group, “Social Status and the Design of Optimal Badges”, October 2013

GRADUATE  
COURSEWORK

Analysis of Algorithms (Jon Kleinberg), Algorithmic Game Theory (Eva Tardos), Approximation Algorithms (David Williamson), Probabilistic Graphical Models (Adam Siepel), Game Theory (Larry Blume), Probability Theory, Database Systems (Johannes Goerke), Bayesian Statistics and Data Analysis (David Ruppert)

TEACHING  
EXPERIENCE

**June 2015:** MSR NYC summer school in *Data Science*  
**Spring 2012:** TA of Prof. Éva Tardos in *Algorithmic Game Theory*  
**Spring 2010:** TA of Prof. John Hopcroft in *Mathematical Foundations for the Information Age*  
**Fall 2009:** TA of Prof. Dexter Kozen in *Data Structures and Functional Programming*  
**Fall 2008:** TA of NTUA Prof. Stathis Zachos in *Algorithms and Complexity* and *Introduction to Programming*  
**Spring 2008:** TA of NTUA Prof. Theodora Varvarigou in *Internet Programming*

PROFESSIONAL  
SERVICE

**Program Committee:** ACM EC 2013, AdAuctions 2014, ACM EC 2015, IJCAI 2015, WINE 2015, AdAuctions 2015, AAAI 2015 workshop on AI For Cities, ICML 2016, ACM EC 2016, NIPS 2016, EC 2016 Workshop on Algorithmic Game Theory and Data Science, AdAuctions 2016, WINE 2016, HCOMP 2016

**Subreferee:** ESA 2015, WINE 2013, CIAC 2013, SODA 2012, STOC 2011, ICALP 2011, SAGT 2010, WINE 2010

**Journal Reviewer:** Journal of the ACM, SIAM Journal on Computing, ACM Transactions on Economics and Computation, Econometrica

ACTIVITIES

**December 2008 - July 2009: Chair** of the IEEE NTUA Student Branch

**2008:** Member of the Organizing Committee of the 2nd Panhellenic Conference of ECE Students (attended by more than 1200 students from all ECE departments of Greece)

REFERENCES

Éva Tardos  
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Computer Science  
Cornell University  
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Principal Researcher  
MSR NYC  
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Associate Professor  
Computer Science and  
Management Science and Engineering  
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Economics  
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