Vasileios (Vasilis) Syrgkanis, Assistant Professor, Stanford University

Contact Information

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Research Interests

My research lies in the areas of machine learning, causal inference, statistics, econometrics, game theory, mechanism design and algorithm design. I am interested in applications in sustainability, healthcare, social sciences, operations management, and digital platforms.

Primary Employment

Assistant Professor **September 2022 -**
Management Science and Engineering
Stanford Causal AI Lab (Director/PI)
Institute for Computational and Mathematical Engineering (December 2023 -)
Computer Science (by courtesy; April 2023 -)
Electrical Engineering (by courtesy; September 2023 -)
Stanford Causal Science Center (Associate Director)
Stanford AI Lab (affiliated faculty)
Stanford Human-Centered Artificial Intelligence (affiliated faculty)
Stanford Data Science (affiliated faculty)
James and Anna Marie Spilker Faculty Fellow
Stanford University

Principal Researcher **August 2019 - August 2022**
Co-lead team on Automated Learning and Intelligence for Causation and Economics
Microsoft Research, New England

Researcher **June 2016 - August 2019**
Microsoft Research, New England

Postdoctoral Researcher **August 2014 - June 2016**
Microsoft Research, NYC

Education

PhD in Computer Science **August 2009 - August 2014**
Cornell University, Department of Computer Science
- *Thesis:* Efficiency of Mechanisms in Complex Markets
- *Advisor:* Prof. Éva Tardos
- *Thesis Committee:* Éva Tardos, Larry Blume, Robert Kleinberg, Emin Gun Sirer

Diploma in Engineering **September 2004 to July 2009**
National Technical University of Athens, Greece
School of Electrical and Computer Engineering
- *Major:* Computer Science and Computer Engineering
- *Minor:* Control Theory and Networks
- *Thesis:* Equilibria in Congestion Game Models: Existence, Complexity and Efficiency
- *Thesis Committee:* Stathis Zachos, Aris Pagourtzis, Dimitris Fotakis
- *GPA:* **9.66/10**, **10/10** (major GPA) (**top 1%**)

Honors and Awards

NSF CAREER Award, PI, 2024
Google Research Scholar Award, PI, 2024
Amazon Research Award, PI, 2023
Bodossaki Distinguished Young Scientist Award in Applied Sciences, 2023 (awarded to one scientist of Greek descent under 40, every two years)

Best paper award, ACM Conference on Learning Theory, **COLT 2019**
Best spotlight talk award, 10th Annual Machine Leaning Symposium, New York Academy of Sciences, **2016**
Best paper award, 29th Conference on Neural Inf. Proc. Systems, **NeurIPS 2015**
Best paper award, 16th ACM Conference on Economics and Computation, **EC 2015**
Simons Foundation Fellowship, **2012-2014**
Facebook Fellowship Finalist, **2012**
Sarafi's Award for ranking 1st in the 4th year of studies **2007-2008**
Award by the Greek State Scholarship Foundation for ranking **1st** among 500 students of my department during the 4th year of my studies **2007-2008**
"Papakyriakopoulos" Award for excellence in Mathematics among the Electrical and Computer Engineering students, **2005-2006**

External Research Support

1. NSF Award IIS-2337916, CAREER: Automated and Robust Causal Inference for Data-Driven Decisions, 2024-2029, $600,000.
2. HAI Cloud Credits Grant. PI. Joint with Russ Altman, Susan Athey, Monica Lam, Shriti Raj. 2024, AWS cloud credits $100,000.
3. Google Research Scholar Award, 2024-2025. Unrestricted gift fund: $60,000.
4. Amazon Research Award, 2023-2025. Unrestricted gift fund: $70,000. AWS cloud credits: $50,000

Top 5 Cited Publications

1. Cosnstantinos Daskalakis, Andrew Ilyas, Vasilis Syrgkanis, Haoyang Zeng
   Training GANs with Optimism
   International Conference on Learning Representations, **ICLR, April 2018**
   Citations: 600 (Google Scholar, 02/24/2025)
2. Vasilis Syrgkanis, Alekh Agarwal, Haipeng Luo, Robert E. Schapire
   Fast Convergence of Regularized Learning in Games
   29th Annual Conference on Neural Information Processing Systems, **NeurIPS15, December 2015**
   Best paper award
   Citations: 296 (Google Scholar, 02/24/2025)
3. Dylan Foster, Vasilis Syrgkanis
   Orthogonal Statistical Learning (Statistical Learning with a Nuisance Component)
   31st Annual Conference on Learning Theory **COLT, June 2019**
   Best Paper Award
   Full version at the *Annals of Statistics*, June 2023
   Citations: 280 (Google Scholar, 02/24/2025)
4. Vasilis Syrgkanis, Eva Tardos
   Composable and Efficient Mechanisms
   45th ACM Symposium on the Theory of Computing, **STOC, June 2013**
   Citations: 269 (Google Scholar, 02/24/2025)
5. Yishay Mansour, Alex Slivkins, Vasilis Syrgkanis
   Bayesian Incentive-Compatible Bandit Exploration
   16th ACM Conference on Economics and Computation, **EC, June 2015**
   Full version at *Operations Research*, July 2020
   Citations: 182 (Google Scholar, 02/24/2025)

Citation Statistics

- h-index: 42 (Google Scholar, 02/24/2025)
- i10-index: 74 (Google Scholar, 02/24/2025)
- total citations: 5550 (Google Scholar, 02/24/2025)

PUBLICATIONS

78. Kara Liu, Russ Altman, Vasilis Syrgkanis
Detecting clinician implicit biases in diagnoses using proximal causal inference
Pacific Symposium on Biocomputing, **PSB25**

77. Jiyuan Tan, Jose Blanchet, Vasilis Syrgkanis
Consistency of Neural Causal Partial Identification
38th Annual Conference on Neural Information Processing Systems, **NeurIPS24**

76. Vahid Balazadeh, Keertana Chidambaram, Viet Nguyen, Rahul G. Krishnan, Vasilis Syrgkanis
Sequential Decision Making with Expert Demonstrations under Unobserved Heterogeneity
38th Annual Conference on Neural Information Processing Systems, **NeurIPS24**

75. Jikai Jin, Vasilis Syrgkanis
Learning Causal Representations from General Environments: Identifiability and Intrinsic Ambiguity
38th Annual Conference on Neural Information Processing Systems, **NeurIPS24**

74. Yash Chandak, Shiv Shankar, Vasilis Syrgkanis, Emma Brunskill
Adaptive Instrument Design for Indirect Experiments
12th International Conference on Learning Representations, **ICLR2024**

73. Divyat Mahajan, Ioannis Mitliagkas, Brady Neal, Vasilis Syrgkanis
Empirical Analysis of Model Selection for Heterogenous Causal Effect Estimation
12th International Conference on Learning Representations, **ICLR2024**

72. Hui Lan, Vasilis Syrgkanis
Causal Q-Aggregation for CATE Model Selection
27th International Conference on Artificial Intelligence and Statistics, **AISTATS2024**

71. A. Bennett, N. Kallus, X. Mao, N. Whitney, V. Syrgkanis, M. Uehara
Minimax Instrumental Variable Regression and L2 Convergence Guarantees without Identification or Closedness
36th Annual Conference on Learning Theory, **COLT2023**

70. A. Bennett, N. Kallus, X. Mao, N. Whitney, V. Syrgkanis, M. Uehara
Inference on Strongly Identified Functionals of Weakly Identified Functions
36th Annual Conference on Learning Theory, **COLT2023**

69. Qizhao Chen, Vasilis Syrgkanis, Morgane Austern
Debiased Machine Learning without Sample-Splitting for Stable Estimators
36th Annual Conference on Neural Information Processing Systems, **NeurIPS22, December 2022**

68. Dhruv Rohatgi, Vasilis Syrgkanis
Robust Generalized Method of Moments: A Finite Sample Viewpoint
36th Annual Conference on Neural Information Processing Systems, **NeurIPS22, December 2022**

67. Vahid Balazadeh Meresht, Vasilis Syrgkanis, Rahul G Krishnan
Partial Identification of Treatment Effects with Implicit Generative Models
36th Annual Conference on Neural Information Processing Systems, **NeurIPS22, December 2022**
Spotlight Presentation

66. V. Chernozhukov, W. K. Newey, V. Quintas-Martinez, V. Syrgkanis
RieszNet and ForestRiesz: Automatic Debiased Machine Learning with Neural Nets and Random Forests
39th International Conference on Machine Learning, **ICML, July 2022**
Long Oral Presentation

65. Khashayar Khosravi, Greg Lewis, Vasilis Syrgkanis
Non-Parametric Inference Adaptive to Intrinsic Dimension
1st Conference on Causal Learning and Reasoning, **CLeaR, April 2022**

64. Jann Spiess, Vasilis Syrgkanis
Evidence-Based Policy Learning
1st Conference on Causal Learning and Reasoning, **CLeaR, April 2022**

63. Kartik Ahuja, Divyat Mahajan, Ioannis Mitliagkas, Vasilis Syrgkanis
Towards efficient representation identification in supervised learning
1st Conference on Causal Learning and Reasoning, **CLeaR, April 2022**

62. Denis Nekipelov, Vira Semenova, Vasilis Syrgkanis
Regularized Orthogonal Machine Learning for Nonlinear Semiparametric Models
The Econometrics Journal, January 2022

61. Morgane Austern, Vasilis Syrgkanis
Asymptotics of the Bootstrap via Stability with Applications to Inference with Model Selection
35th Annual Conference on Neural Information Processing Systems, **NeurIPS21, December 2021**

60. K. Battocchi, E. Dillon, M. Hei, G. Lewis, M. Oprescu, V. Syrgkanis
Estimating the Long-Term Effects of Novel Treatments
35th Annual Conference on Neural Information Processing Systems, **NeurIPS21, December 2021**

59. Greg Lewis, Vasilis Syrgkanis
Double/Debiased Machine Learning for Dynamic Treatment Effects via g-Estimation
35th Annual Conference on Neural Information Processing Systems, **NeurIPS21, December 2021**

58. Sheffer et al.
Genome-scale screens identify factors regulating tumor cell responses to natural killer cells
Nature Genetics, July 2021

57. Daniel Ngo, Logan Stapleton, Vasilis Syrgkanis, Zhiwei Steven Wu
Incentivizing Compliance with Algorithmic Instruments
38th International Conference on Machine Learning, **ICML, July 2021**

56. Amit Sharma, Vasilis Syrgkanis, Cheng Zhang, Emre Kiciman
DoWhy: Addressing Challenges in Expressing and Validating Causal Assumptions
ICML 2021 Workshop on the Neglected Assumptions in Causal Inference, July 2021

55. Annie Liang, Xiaosheng Mu, Vasilis Syrgkanis
Dynamically Aggregating Diverse Information
22nd ACM Conference on Economics and Computation, **EC, July 2021**
Full version at *Econometrica*, January 2022

54. Tri Dao, Govinda Kamath, Vasilis Syrgkanis, Lester Mackey
Knowledge Distillation as Semi-Parametric Inference
International Conference on Learning Representations, **ICLR, May 2021**

53. Gali Noti, Vasilis Syrgkanis
Bid Prediction in Repeated Auctions with Learning
The Web Conference, **WWW, April 2021**

52. Nishanth Dikkala, Greg Lewis, Lester Mackey, Vasilis Syrgkanis
Minimax Estimation of Conditional Moment Models
34th Annual Conference on Neural Information Processing Systems, **NeurIPS20, December 2020**
Preliminary version appeared as: Adversarial Generalized Method of Moments

51. Vasilis Syrgkanis, Manolis Zampetakis
Estimation and Inference with Trees and Forests in High Dimensions
32nd Annual Conference on Learning Theory **COLT, July 2020**

50. Constantinos Daskalakis, Maxwell Fishelson, Brendan Lucier, Vasilis Syrgkanis, Santhoshini Velusamy
Simple, Credible, and Approximately-Optimal Auctions
21st ACM Conference on Economics and Computation, **EC, July 2020**
Full version accepted at Siam Journal on Computing, SICOMP, 2022

49. Dylan Foster, Vasilis Syrgkanis
Orthogonal Statistical Learning (Statistical Learning with a Nuisance Component)
31st Annual Conference on Learning Theory **COLT, June 2019**
Best Paper Award
Full version Accepted at the *Annals of Statistics, 2023*

48. Victor Chernozhukov, Mert Demirer, Greg Lewis, Vasilis Syrgkanis
Semi-Parametric Efficient Policy Learning with Continuous Actions
33rd Annual Conference on Neural Information Processing Systems, **NeurIPS19, December 2019**

47. Jonas Mueller, Vasilis Syrgkanis, Matt Taddy
Low-rank Bandit Methods for High-dimensional Dynamic Pricing
33rd Annual Conference on Neural Information Processing Systems, **NeurIPS19, December 2019**

46. V. Syrgkanis, V. Lei, M. Oprescu, M. Hei, K. Battocchi, G. Lewis
Machine Learning Estimation of Heterogeneous Treatment Effects with Instruments
33rd Annual Conference on Neural Information Processing Systems, **NeurIPS19, December 2019**
Spotlight Presentation

45. Miruna Oprescu, Vasilis Syrgkanis, Zhiwei Steven Wu
Orthogonal Random Forest for Heterogeneous Treatment Effect Estimation
36th International Conference on Machine Learning, **ICML, June 2019**

44. Mark DM Leiserson, Vasilis Syrgkanis, Amy Gilson, Miroslav Dudik, Samuel Funt, Alexandra Snyder, Lester Mackey
A Multifactorial Model of T Cell Expansion and Durable Clinical Benefit in Response to a PD-L1 Inhibitor
PLOS ONE, December 2018

43. Akshay Krishnamurthy, Zhiwei Steven Wu, Vasilis Syrgkanis
Semiparametric Contextual Bandits
35th International Conference on Machine Learning, **ICML, July 2018**

42. Lester Mackey, Vasilis Syrgkanis, Ilias Zadik
Second-order Orthogonality for Causal Inference in High Dimensions
35th International Conference on Machine Learning, **ICML, July 2018**

41. Yash Deshpande, Lester Mackey, Vasilis Syrgkanis, Matt Taddy
Accurate Inference for Adaptive Linear Models
35th International Conference on Machine Learning, **ICML, July 2018**

40. Annie Liang, Xiaoseng Mu, Vasilis Syrgkanis
Optimal and Myopic Information Acquisition
19th ACM Conference on Economics and Computation, **EC, June 2018**

39. Yiling Chen, Nicole Immorlica, Brendan Lucier, Vasilis Syrgkanis, Juba Ziani
Optimal Data Acquisition for Statistical Estimation
19th ACM Conference on Economics and Computation, **EC, June 2018**

38. Zhe Feng, Chara Podimata, Vasilis Syrgkanis
Learning to Bid Without Knowing your Value
19th ACM Conference on Economics and Computation, **EC, June 2018**

37. Nicole Immorlica, Brendan Lucier, Jieming Mao, Vasilis Syrgkanis, Christos Tzamos
Combinatorial Assortment Optimization
14th Conference on Web and Internet Economics, **WINE, December 2018**

36. Amy Greenwald, Takehiro Oyakawa, Vasilis Syrgkanis
Simple vs Optimal Contests with Convex Costs
The Web Conference, **WWW, April 2018**

35. Cosnstantinos Daskalakis, Andrew Ilyas, Vasilis Syrgkanis, Haoyang Zeng
Training GANs with Optimism
International Conference on Learning Representations, **ICLR, April 2018**

34. Nikhil Devanur, Balasubramanian Sivan, Vasilis Syrgkanis
Truthful Multi-parameter Auctions with Online Supply:an Impossible Combination
28th ACM-SIAM Symposium on Discrete Algorithms, **SODA, January 2018**

33. Robert Chen, Brendan Lucier, Yaron Singer, Vasilis Syrgkanis
Robust Optimization with Non-Convex Objectives
31st Annual Conference on Neural Information Processing Systems, **NeurIPS17, December 2017**
Oral Presentation

32. Vasilis Syrgkanis
A Sample Complexity Measure with Applications to Learning Optimal Auctions
31st Annual Conference on Neural Information Processing Systems, **NeurIPS17, December 2017**

31. Darrell Hoy, Denis Nekipelov, Vasilis Syrgkanis
Welfare Guarantees from Data
31st Annual Conference on Neural Information Processing Systems, **NeurIPS17, December 2017**

30. Miro Dudik, Nika Haghtalab, Robert E. Schapire, Vasilis Syrgkanis, Jennifer Wortman Vaughan
Oracle Efficient Learning and Auction Design

58th Annual IEEE Symposium on Foundations of Computer Science, **FOCS, October 2017**
Full version at the *Journal of the ACM*, October 2020

29. Constantinos Daskalakis, Vasilis Syrgkanis
Learning in Auctions: Regret is Hard, Envy is Easy
57th Annual IEEE Symposium on Foundations of Computer Science, **FOCS, October 2016**
Full version at *Games and Economic Behavior*, 2022

28. Vasilis Syrgkanis, Haipeng Luo, Akshay Krishnamurthy, Robert E. Schapire
Improved Regret Bounds for Oracle-Based Adversarial Contextual Learning
30th Annual Conference on Neural Information Processing Systems, **NeurIPS16, December 2016**

27. Yishay Mansour, Aleksandrs Slivkins, Vasilis Syrgkanis, Steven Wu
Bayesian Exploration: Incentivizing Exploration in Bayesian Games
17th ACM Conference on Economics and Computation, **EC, July 2016**
Full version in *Operations Research*, December 2021

26. Vasilis Syrgkanis, Akshay Krishnamurthy, Robert E. Schapire
Efficient Algorithms for Adversarial Contextual Learning
33rd International Conference on Machine Learning, **ICML, June 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, June 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, June 2016**

23. Thodoris Lykouris, Vasilis Syrgkanis, Éva Tardos
Learning and Efficiency in Games with Dynamic Population
26th ACM-SIAM Symposium on Discrete Algorithms, **SODA, January 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, **NeurIPS15, December 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, **NeurIPS15, December 2015**

20. Denis Nekipelov, Vasilis Syrgkanis, Éva Tardos
Econometrics for Learning Agents
16th ACM Conference on Economics and Computation, **EC, June 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, June 2015**
Full version accepted at *Mathematics of Operations Research*, July 2019

18. Nikhil Devanur, Jamie Morgenstern, Vasilis Syrgkanis, Matt Weinberg
Simple Auctions with Simple Strategies
16th ACM Conference on Economics and Computation, **EC, June 2015**

17. Brendan Lucier, Vasilis Syrgkanis
Greedy Algorithms make Efficient Mechanisms
16th ACM Conference on Economics and Computation, **EC, June 2015**

16. Yishay Mansour, Alex Slivkins, Vasilis Syrgkanis
Bayesian Incentive-Compatible Bandit Exploration
16th ACM Conference on Economics and Computation, **EC, June 2015**
Full version accepted at *Operations Research*, July 2020

15. Nicole Immorlica, Greg Stoddard, Vasilis Syrgkanis
Social Status and Badge Design
25th World Wide Web Conference, **WWW, May 2015**
Preliminary versions at the NBER Market Design Working Group Meeting 2013, NeurIPS'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 Unifiying Hierarchy of Valuations with Complements and Substitutes
29th AAAI Conference on Artificial Intelligence, **AAAI, January 2015**

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, September 2014**

12. Vasilis Syrgkanis, Eva Tardos
Composable and Efficient Mechanisms
45th ACM Symposium on the Theory of Computing, **STOC, June 2013**

11. Hu Fu, Brendan Lucier, Balasubramanian Sivan, Vasilis Syrgkanis
Cost-Recovering Bayesian Algorithmic Mechanism Design
14th ACM Conference on Electronic Commerce, **EC, June 2013**

10. Balasubramanian Sivan, Vasilis Syrgkanis
Vickrey Auctions for Irregular Distributions
9th Conference on Web and Internet Economics, **WINE, December 2013**

9. Michal Feldman, Brendan Lucier, Vasilis Syrgkanis
Limits of Efficiency in Sequential Auctions
9th Conference on Web and Internet Economics, **WINE, December 2013**

8. Brendan Lucier, Yaron Singer, Vasilis Syrgkanis, Éva Tardos
Equilibrium in Combinatorial Public Projects
9th Conference on Web and Internet Economics, **WINE, December 2013**

7. Yoram Bachrach, Vasilis Syrgkanis, Milan Vojnović
Incentives and Efficiency in Uncertain Collaborative Environments
9th Conference on Web and Internet Economics, **WINE, December 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, June 2012**

4. Renato Paes Leme, Vasilis Syrgkanis, Éva Tardos
Sequential Auctions and Externalities
23rd ACM Symposium on Discrete Algorithms, **SODA, January 2012**

3. Renato Paes Leme, Vasilis Syrgkanis, Éva Tardos
The Curse of Simultaneity
3rd ACM Conf. on Innovations in Theoretical Computer Science, **ITCS, January 2012**

2. Balasubramanian Sivan, Vasilis Syrgkanis, Omer Tamuz
Lower Bounds on Revenue of Approximately Optimal Auctions
8th Workshop on Internet & Network Economics, **WINE, December 2012**

1. Vasilis Syrgkanis
The Complexity of Equilibria in Cost Sharing Games
Sixth Workshop on Internet & Network Economics, **WINE, December 2010**

Working Papers

24. Hui Lan, Haoge Chang, Eleanor Dillon, Vasilis Syrgkanis
A Meta-learner for Heterogeneous Effects in Difference-in-Differences
Preprint available on Arxiv, Feb 2025

23. Victor Chernozhukov, Whitney K. Newey, Vasilis Syrgkanis
Conditional Influence Functions
Preprint available on Arxiv, Dec 2024

22. Hyunji Nam, Allen Nie, Ge Gao, Vasilis Syrgkanis, Emma Brunskill
Predicting Long Term Sequential Policy Value Using Softer Surrogates
Preprint available on Arxiv, Dec 2024

21. Zhaomeng Chen, Junting Duan, Victor Chernozhukov, Vasilis Syrgkanis
Automatic Doubly Robust Forests
Preprint available on Arxiv, Dec 2024

20. Yifan Wu, Ramesh Johari, Vasilis Syrgkanis, Gabriel Y. Weintraub
Switchback Price Experiments with Forward-Looking Demand
Preprint available on Arxiv, Oct 2024

19. Allison Lau, Younwoo Choi, Vahid Balazadeh, Keertana Chidambaram, Vasilis Syrgkanis, Rahul G. Krishnan
Personalized Adaptation via In-Context Preference Learning
Preprint available on Arxiv, Oct 2024

18. Justin Whitehouse, Christopher Jung, Vasilis Syrgkanis, Bryan Wilder, Zhiwei Steven Wu
Orthogonal Causal Calibration
Preprint available on Arxiv, June 2024

17. Keertana Chidambaram, Karthik Vinay Seetharaman, Vasilis Syrgkanis
Direct Preference Optimization With Unobserved Preference Heterogeneity
Preprint available on Arxiv, May 2024

16. C. Jung, J. Hastings, C. Gates Peale, V. Syrgkanis
Taking a Moment for Distributional Robustness
Preprint available on Arxiv, May 2024

15. David M. Ritzwoller, Vasilis Syrgkanis
Simultaneous Inference for Local Structural Parameters with Random Forests
Preprint available on Arxiv, May 2024

14. Vasilis Syrgkanis, Ruohan Zhan
Post Reinforcement Learning Inference
Preprint available on Arxiv, May 2024
Revise and Resubmit at **Operations Research**

13. Ravi B. Sojitra, Vasilis Syrgkanis
Dynamic Local Average Treatment Effects
Preprint available on Arxiv, May 2024

12. Z. Li, H. Lan, V. Syrgkanis, M. Wang, M. Uehara
Regularized DeepIV with Model Selection
Preprint available on Arxiv, Mar 2024

11. Jikai Jin, Vasilis Syrgkanis
Structure Agnostic Optimality of Doubly Robust Learning for Treatment Effect Estimation
Preprint available on Arixv, Feb 2024

10. Daniel Ngo, Keegan Harris, Anish Agarwal, Vasilis Syrgkanis, Zhiwei Steven Wu
Incentive-Aware Synthetic Control: Accurate Counterfactual Estimation via Incentivized Exploration
Preprint available on Arxiv, Dec 2023

9. Victor Chernozhukov, Michael Newey, Whitney K Newey, Rahul Singh, Vasilis Srygkanis
Automatic Debiased Machine Learning for Covariate Shifts
Preprint available on Arxiv, July 2023

8. A. Bennett, N. Kallus, X. Mao, N. Whitney, V. Syrgkanis, M. Uehara
Source Condition Double Robust Inference on Functionals of Inverse Problems
Preprint available on Arxiv, July 2023
Revise and Resubmit at **JRSS-B**

7. Qizhao Chen, Morgane Austern, Vasilis Syrgkanis
Inference on Optimal Dynamic Policies via Softmax Approximation
Preprint available on Arxiv, March 2023

6. Victor Chernozhukov, Whitney Newey, Rahul Singh, Vasilis Syrgkanis
Automatic Debiased Machine Learning for Dynamic Treatment Effects
Preprint available on Arxiv, March 2022

5. Anish Agarwal, Vasilis Syrgkanis
Synthetic Blip Effects: Generalizing Synthetic Controls for the Dynamic Treatment Regime
Preprint available on Arxiv, October 2022

4. V. Chernozhukov, C. Cinelli, W. Newey, A. Sharma, V. Syrgkanis
Long Story Short: Omitted Variable Bias in Machine Learned Causal Models
Preprint available on Arxiv, December 2021
Revise and Resubmit at **Review of Economics and Statistics**

3. V. Chernozhukov, W. K. Newey, V. Quintas-Martinez, V. Syrgkanis
Automatic Debiased Machine Learning via Riesz Regression
Preprint available on Arxiv, April 2021

2. Victor Chernozhukov, Whitney Newey, Rahul Singh, Vasilis Syrgkanis
Adversarial Estimation of Riesz Representers
Preprint available on Arxiv, December 2020
Revise and Resubmit at **Journal of the American Statistical Association**

1. Vasilis Syrgkanis, Elie Tamer, Juba Ziani
Inference on Auctions with Weak Assumptions on Information
Preprint available on Arxiv, May 2021

Surveys and Books

5. Vasilis Syrgkanis
Foundations of Causal Machine Learning
In preparation

4. Victor Chernozhukov, Christian Hansen, Nathan Kallus, Martin Spindler, Vasilis Syrgkanis
Applied Causal Inference Powered by ML and AI
Available Online, February 2024

3. Tim Roughgarden, Vasilis Syrgkanis, Éva Tardos
Price of Anarchy in Auctions
Journal of Artificial Intelligence Research, May 2017

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

Econometrics and Machine Learning, Invited short course at Greek Stochastics Summer Workshop 2022, Corfu, Greece

Causal Inference and Machine Learning in Practice with EconML and CausalML: Industrial Use Cases at Microsoft, TripAdvisor, Uber, Tutorial at Conference on Knowledge Discovery and Data Mining, KDD 2021

Causal Inference and Machine Learning, Workshop on Algorithms, Learning and Economics, July 2019

Game Theoretic Challenges and Opportunities in Deep Learning, 19th ACM Conference on Economics and Computation (EC 2019), Phoenix, July 2019 (with Yaron Singer)

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

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

Selected Invited Presentations

- **Keynote** at European Causal Inference Meeting (EuroCIM), April 2025
- Online Causal Inference Seminar, March 2025
- U. Chicago Econometrics Seminar, November 2024
- **Keynote** at National Association of Business Economics, Tech Economics Conference, October 2024

- Banff Workshop on New Directions in Machine Learning Theory, October 2024
- UW Statistics Seminar, October 2024
- Columbia, IEOR Seminar, October 2024
- Stanford Data Science Conference, Stanford, May 2024
- META Research Seminar, February 2024
- TOCA-Silicon Valley Day, November 2023
- Stanford HAI Executive Breakfast, October 2023
- Stochastics and Statistics Seminar, MIT, September 2023
- Uber Research Seminar, August 2023
- Machine Learning in Economics Summer Institute, U. Chicago, August 2023
- HIAS Workshop on AI: Frontiers and Interfaces, July 2023
- ACM FCRC Tutorial on Causal Inference for Engineers, June 2023
- **Keynote** at Experimentation and Causal Inference in the Tech Sector, Stanford, June 2023
- LMU Munich AI Keynote Series, May 2023
- Operations, Information and Techology Seminar, Stanford, May 2023
- Cowles Foundation Econometrics Fellow, Yale, March 2023
- Stanford Information Systems Lab Colloquium, February 2023
- Upenn Econometrics Seminar, November 2022
- Stanford Econometrics Seminar, October 2022
- UW Business School, Information Systems and Operations Management Department, October 2022
- CMU Department of Statistics and Data Science, October 2022
- Panelist Let-All's 4th Mentoring workshop, October 2022
- IBM/DIMACS Workshop on Bridging Game Theory and Machine Learning for Multi-party Decision Making, October 2022
- Online Causal Inference Seminar, September 2022
- U. Chicago, The Griffin Applied Economics Incubator Conference on Machine Learning Across Disciplines: New Theoretical Developments, June 2022
- First Conference on Interactive Causal Inference, June 2022
- RCEA Big Data and Machine Learning Conference, May 2022
- U. of Michigan Econometrics Seminar, April 2022
- Panel on *Machine Learning in Social Systems: Challenges and Opportunities from Program Evaluation* (with Jennifer Hill and Guido Imbens), NeurIPS 2021 Workshop on Econometrics meets Machine Learning, Dec. 2021
- Netflix Research Seminar (Algorithm + Data Science Engineering), November 2021
- Columbia Statistics Seminar, November 2021
- Online Seminars on Mathematical Foundations of Data Science, November 2021
- Google X Seminar, August 2021
- Montreal Machine Learning and Optimization (MTL MLOpt) Seminar, May 2021
- Cornell AI Seminar, May 2021
- World Congress of the Econometric Society, *Panel on AI/ML for Empirical Research in Economics* (with Esther Duflo and Guido Imbens), August 2020
- AEA meetings, KAEA session on Machine Learning and Its Applications to Econometrics, January 2020
- Boston University Econometrics seminar, November 2019
- Symposium on Algorithmic Game Theory invited talk, October 2019
- Workshop on Machine Learning and User Decision Making, May 2019
- MIT/Harvard Econometrics seminar, April 2019
- Harvard EconCS seminar, March 2019
- UT Austin, Econometrics/IO seminar, March 2019
- AEA meetings, session on Machine Learning and Shrinkage Estimation, January 2019
- Columbia University, DRO seminar series, November 2018
- 17th Conference on Research on Economic Theory and Econometrics, July 2018

- UCL Machine Learning and Econometrics Workshop, June 2018
- STOC 2017, Semi-Plenary talk, June 2017
- Simons Symposium on New Directions in Approximation Algorithms, April 2017
- MIT EECS, Theory Colloquium, February 2017
- Cornell CS, three lecture mini-series, January 2017
- Columbia University, Economic Theory seminar, November 2016
- 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
- CS Theory Seminar, Stanford, October 2016
- Economics Seminar, Stanford Graduate School of Business, October 2016
- Caltech, Workshop on Information and Social Economics, August 2016
- Simons Center Seminar on "Simplicity and Complexity in Economics", October 2015
- Google Theory Seminar, September 2015
- MSR Economics Seminar, August 2015
- University of Pennsylvania, CS Theory Seminar, May 2015
- University of Washington, CS Theory Seminar, March 2015
- MSR Redmond, Theory lunch, March 2015
- Northwestern University, CS Colloquium, April 2014
- MSR Redmond, Theory group, March 2014
- MSR NYC, February 2014
- NBER Market Design Working Group, 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

Mentoring

PhD Students:
- Jiyuan Tan (MS&E, Stanford, 2024 - present)
- Jikai Jin (ICME, Stanford, 2023 - present)
- Hui Lan (ICME, Stanford, 2023 - present)
- Keertana Veeramony Chidambaram (MS&E, Stanford, 2023 - present)
- Ravi Sojitra (co-advised with Guido Imbens) (MS&E, Stanford, 2023 - present)

PhD Rotation Students:
- Ayush Sawarni (MS&E, Stanford, 2024 - present)
- Shiangyi Lin (ICME, Stanford, 2024 - present)
- Chenghan Xie (MS&E, Stanford, 2024 - present)

Undergraduate Students:
- Pinlin (Calvin) Xu, (CS, Stanford, Jan'24-present)
- Saanvi Chawla, (CS, Stanford, Sept'24-present)
- Nicole Nouchee Yang, (MS&E, Stanford, Oct'22-Jun'23)
- Jacob Stavrianos, (Mathematics and CS, Stanford, Sept'23-present)
- Karthik Vinay Seetharaman, (Mathematics, Stanford, Feb'24-present)

Microsoft Research Interns:
- Matthew O'Keefe (2021) (co-mentored with Markus Mobiuus and Brendan Lucier)

- Dhruv Rohatgi (2021)
- Anish Agarwal (2021)
- Rahul Singh (2020)
- Gali Noti (2019)
- Michael Celentano (2019) (co-mentored with Greg Lewis)
- Emmanouil Zampetakis (2019)
- Dylan Foster (2018)
- Mert Demirer (2018) (co-mentored with Greg Lewis)
- Nishanth Dikkala (2018) (co-mentored with Greg Lewis and Lester Mackey)
- Khashayar Khosravi (2018) (co-mentored with Greg Lewis)
- Gautam Kamath (2017) (co-mentored with Brendan Lucier and Nicole Immorlica)
- Jieming Mao (2017) (co-mentored with Brendan Lucier and Nicole Immorlica)
- Juba Ziani (2017) (co-mentored with Brendan Lucier and Nicole Immorlica)
- Jonas Mueller (2017) (co-mentored with Matt Taddy)
- Yichen Wang (2017)

Teaching

Winter 2025: Applied Causal Inference Powered by Machine Learning and AI (Stanford, MS&E228)
Fall 2024: Foundations of Causal Machine Learning (Stanford, MS&E328/CS328)
Spring 2024: Game Theory, Data Science and AI (Stanford, MS&E233)
Winter 2024: Applied Causal Inference Powered by Machine Learning and AI (Stanford, MS&E228/CS288)
Fall 2023: Foundations of Causal Machine Learning (Stanford, MS&E328/CS328)
Spring 2023: Foundations of Causal Machine Learning (Stanford, MS&E328/CS328)
Winter 2023: Applied Causal Inference Powered by Machine Learning and AI (Stanford, MS&E228)
Spring 2021: Algorithmic Game Theory and Data Science, co-instructor and co-developer of graduate MIT EECS course, with Constantinos Daskalakis
Spring 2019: Algorithmic Game Theory and Data Science, co-instructor and co-developer of graduate MIT EECS course, with Constantinos Daskalakis
Spring 2017: Algorithmic Game Theory and Data Science, co-instructor and co-developer of graduate MIT EECS course, with Constantinos Daskalakis
June 2015: MSR NYC summer school in *Data Science*

Professional Service

Associate Editor: Econometrica (2022-2025), Operations Research (2024)
Senior Program Committee, Senior Area Chair: ICML 2024, EC 2024, EC 2025 (Local Chair), ICML 2025
Area Chair: ACM EC 2017, ICLR 2020, ACM EC 2020, NeurIPS 2020, COLT 2020, ICLR 2021, NeurIPS 2021, ACM EC 2021, UAI 2021, COLT 2021, AAAI 2021, UAI 2022, ICALP 2022, NeurIPS 2022, ICLR 2022, ICLR 2023, Clear 2023, EC 2023, ICML 2023, ICLR 2024, NeurIPS 2024
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, NeurIPS 2016, EC 2016 Workshop on Algorithmic Game Theory and Data Science, AdAuctions 2016, WINE 2016, HCOMP 2016, SAGT 2017, NeurIPS 2017, ALT 2018, ICLR 2018, ICLR 2019, ALT 2019, COLT 2019, WINE 2020, COLT 2022
Journal Reviewer: Journal of the ACM, SIAM Journal on Computing, ACM Transactions on Economics and Computation, Econometrica

University Service

2023-2024: Data Science and Statistics Faculty Search Committee
2024-present: Research Experience for Undergraduates (REU) Faculty Coordinator
2022-2023: Data Science and Engineering Faculty Search Committee
2022-2023: MS&E PhD Admissions Committee

Industry Experience

2024-present: Amazon Visiting Academic, Personalization

Activities

2024-present: The SDG Digital Transformation and Sustainability Solutions Lab, Faculty Advisory Board
2023: Organizing committee of Stanford Conference on AI for Operations and Operations for AI Conference
2021: Organizing committee chair of Simons Semester on Learning and Games, Spring 2022
2021: Organizing committee of Simons Semester on Causality, Spring 2022
2021: Organizing committee of Causal ML track at Microsoft Research Summit 2021
2019-Present: Lead designer and core contributor to open source library EconML for the estimation of heterogeneous treatment effects with Machine Learning
2018: Organizing committee of NeurIPS 2018 Smooth Games Optimization and Machine Learning Workshop
2017: Organizing committee of 3rd Cambridge Area Economics and Computation Day
2017: Organizing committee of NeurIPS17 Workshop on Learning in the Presence of Strategic Behavior
2017: Organizing committee of 3rd Workshop on Algorithmic Game Theory and Data Science, EC 2017
2016: Organizing committee of 2nd Workshop on Algorithmic Game Theory and Data Science, EC 2016
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

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