

Vasilis Kantonis

University of Wisconsin-Madison
Department of Computer Sciences
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Research Interests **Theoretical Computer Science, Machine Learning, Statistics**

Education **University of Wisconsin-Madison**
Ph.D., Computer Science, 2018 – present.
Advisor: Christos Tzamos

National Technical University of Athens
Master of Engineering in Electrical & Computer Engineering
Thesis: Learning Powers of Poisson Binomial Distributions
Advisor: Dimitris Fotakis

Work Experience **Research Intern** Google Research
2022, Google Research, Mountain View, California

Systems and Services Engineer GRNET
2016, Greek Research and Technology Network, Athens

Publications **Weighted Distillation with Unlabeled Examples**
Fotis Iliopoulos, Vasilis Kantonis, Cenk Baykal,
Gaurav Menghani, Khoa Trinh, Erik Vee
Proceedings of the 36th Conference on Neural Information Processing Systems
NeurIPS 2022

Linear Label Ranking with Bounded Noise.
Dimitris Fotakis, Alvertos Kalavasis, Vasilis Kantonis, Christos Tzamos
Proceedings of the 36th Conference on Neural Information Processing Systems
NeurIPS 2022

Learning General Halfspaces with General Massart Noise under the Gaussian Distribution
Ilias Diakonikolas, Daniel M. Kane, Vasilis Kantonis, Christos Tzamos, Nikos Zarifis
Proceedings of the 54th Annual ACM Symposium on Theory of Computing
STOC 2022

Learning a Single Neuron with Adversarial Label Noise via Gradient Descent
Ilias Diakonikolas, Vasilis Kantonis, Christos Tzamos, Nikos Zarifis

*Proceedings of the 35th Annual Conference on Learning Theory
COLT 2022*

**Learning General Halfspaces with Adversarial Label Noise
via Online Gradient Descent**

Ilias Diakonikolas, Vasilis Kontonis, Christos Tzamos, Nikos Zarifis
*Proceedings of the 39th International Conference on Machine Learning
ICML 2022*

**A Statistical Taylor's Theorem and Extrapolation
of Truncated Densities**

Costis Daskalakis, Vasilis Kontonis, Christos Tzamos, Manolis Zampetakis
*Proceedings of the 34th Annual Conference on Learning Theory
COLT 2021*

Efficient Algorithms for Learning from Coarse Labels

Dimitris Fotakis, Alvertos Kalavasis, Vasilis Kontonis, Christos Tzamos
*Proceedings of the 34th Annual Conference on Learning Theory
COLT 2021*

Agnostic Proper Learning of Halfspaces under Gaussian Marginals

Ilias Diakonikolas, Daniel M. Kane, Vasilis Kontonis,
Christos Tzamos, Nikos Zarifis
*Proceedings of the 34th Annual Conference on Learning Theory
COLT 2021*

Learning Online Algorithms with Distributional Advice

Ilias Diakonikolas, Vasilis Kontonis, Christos Tzamos,
Ali Vakilian, Nikos Zarifis
*Proceedings of the 38th International Conference on Machine Learning
ICML 2021*

**A Polynomial Time Algorithm For Learning Halfspaces
with Tsybakov Noise**

Ilias Diakonikolas, Daniel M. Kane, Vasilis Kontonis,
Christos Tzamos, Nikos Zarifis
*Proceedings of the 53rd Annual ACM Symposium on Theory of Computing
STOC 2021*

Learning Halfspaces with Tsybakov Noise

Ilias Diakonikolas, Vasilis Kontonis, Christos Tzamos, Nikos Zarifis
*Proceedings of the 53rd Annual ACM Symposium on Theory of Computing
STOC 2021 (Conference version merged with the above paper)*

Non-Convex SGD Learns Halfspaces with Adversarial Label Noise

Ilias Diakonikolas, Vasilis Kontonis, Christos Tzamos, Nikos Zarifis
Proceedings of the 34th Conference on Neural Information Processing Systems
NeurIPS 2020

**Learning Halfspaces with Massart Noise
Under Structured Distributions**

Ilias Diakonikolas, Vasilis Kontonis, Christos Tzamos, Nikos Zarifis
Proceedings of the 33th Annual Conference on Learning Theory
COLT 2020

**Algorithms and SQ lower bounds for PAC Learning
One-Hidden-layer ReLU Networks**

Ilias Diakonikolas, Daniel M. Kane, Vasilis Kontonis, Nikos Zarifis
Proceedings of the 33th Annual Conference on Learning Theory
COLT 2020

Truncated Statistics with Unknown Truncation

Vasilis Kontonis, Christos Tzamos, Manolis Zambetakis
*Proceedings of the 60th Annual IEEE Symposium on Foundations of
Computer Science, FOCS 2019*

Removing Bias in Machine Learning via Truncated Statistics

Costis Daskalakis, Vasilis Kontonis, Christos Tzamos, Manolis Zambetakis
Manuscript

Opinion Dynamics with Limited Information

Dimitris Fotakis, Vardis Kandiros, Vasilis Kontonis, and Stratis Skoulakis
Proceedings of the 14th Conference on Web and Internet Economics
WINE 2018

Learning Powers of Poisson Binomial Distributions

Dimitris Fotakis, Vasilis Kontonis, Piotr Krysta, and Paul Spirakis
Manuscript, <http://arxiv.org/abs/1707.05662>

Teaching

Spring 2022, University of Wisconsin-Madison

Teaching Assistant, “Introduction to Artificial Intelligence”, CS 540
Instructors: Sharon Li, Ilias Diakonikolas, Jerry Zhu

Fall 2021, University of Wisconsin-Madison

Teaching Assistant, “Introduction to Numerical Methods”, CS 412
Instructor: Amos Ron

Spring 2021, University of Wisconsin-Madison

Teaching Assistant, “Introduction to Algorithms”, CS 577
Instructors: Christos Tzamos, Marc Renault

Fall 2020, University of Wisconsin-Madison

Teaching Assistant, “Programming II”, CS 300

Instructors: Mouna Ayari Ben Hadj Kacem, Laura Legault

Spring 2020, University of Wisconsin-Madison

Teaching Assistant, “Introduction to Algorithms”, CS 577

Instructor: Christos Tzamos

Spring 2019, University of Wisconsin-Madison

Teaching Assistant, “Introduction to Algorithms”, CS 577

Instructor: Dieter van Melkebeek

Fall 2018, University of Wisconsin-Madison

Teaching Assistant, “Introduction to Algorithms”, CS 577

Instructors: Christos Tzamos, Shuchi Chawla

Fall 2017, National Technical University of Athens

Teaching Assistant, “Algorithms and Complexity”

Instructor: Aris Pagourtzis

Fall 2016, National Technical University of Athens

Teaching Assistant, “Operating Systems”

Instructors: Nectarios Koziris, Georgios Goumas, Vangelis Koukis

Service

Conference Reviewer

ICML 2022, NeurIPS 2021, ICML 2021, EC 2021, STOC 2020, ALT 2020, SODA 2019
ICML 2019, EC 2019, WINE 2019, MFCS 2018

Journal Reviewer

Theoretical Computer Science (TCS)

Talks

**Learning General Halfspaces with General Massart Noise
under the Gaussian Distribution**

2022 54th ACM Symposium on Theory of Computing (STOC2022)

**A Statistical Taylor’s Theorem and Extrapolation
of Truncated Densities**

2022, 34th Annual Conference on Learning Theory (COLT 2021)

**A Statistical Taylor’s Theorem and Extrapolation
of Truncated Densities**

2021, 34th Annual Conference on Learning Theory (COLT 2021)

Agnostic Proper Learning of Halfspaces under Gaussian Marginals

2021, 34th Annual Conference on Learning Theory (COLT 2021)

Efficient Algorithms for Learning Halfspaces with Tsybakov Noise
2021, 53rd Symposium on Theory of Computing (STOC 2021)

Non-Convex SGD Learns Halfspaces with Adversarial Label Noise
2020, 34th Conference on Neural Information Processing Systems (Neurips 2020)

**Learning Halfspaces with Massart Noise
Under Structured Distributions**
2020, 33th Annual Conference on Learning Theory (COLT 2020)

Truncated Statistics with Unknown Truncation
Symposium on Foundations of Computer Science (FOCS 2019)
Workshop on Algorithms for Learning and Economics (WALE2019)
14th Athens Colloquium on Algorithms and Complexity (ACAC19)
Theory Study Group, University of Wisconsin-Madison

Learning Powers of Poisson Binomial Distributions
2017, ECCO Research Seminar, University of Liverpool

Bias-Variance Tradeoff, VC-Dimension
2017, Learning Theory Study Group, Corelab, NTUA

**Applications of LP, QP, SOCP and SDP.
SDP Relaxations: MaxCut.
Vector Optimization, Duality**
2017, Convex Optimization Minicourse, Corelab, NTUA.

Awards

Recipient of the Bodossakis Fellowship 2022

Recipient of the Gerondellis Fellowship 2020

Recipient of the Eurobank Grant "The great moment for Education" in 2010
for graduating first in my high-school.

Recipient of the Touramanoglou Grant in 2010 for ranking among the top
high school graduates of the cities of Ilioupolis and Ymittos.

Languages and Skills

English(native), German (advanced)
Mathematica, Python, L^AT_EX, GNU/Linux

References

Christos Tzamos
Assistant Professor, University of Wisconsin-Madison
Dimitris Fotakis

Associate Professor, National Technical University of Athens

Ilias Diakonikolas

Professor, University of Wisconsin-Madison

Paul G. Spirakis

Professor, University of Liverpool