

# Nikos Zarifis

nikoszarifis.github.io

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## EDUCATION

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**University of Wisconsin-Madison**

Aug 2019 - now

Ph.D. in Computer Sciences

Advisor: [Ilias Diakonikolas](#)

**National Technical University of Athens**

Sep 2012 - Nov 2018

Diploma in Electrical and Computer Engineering

Major: Computer Science Minor: Mathematics

Advisor: [Dimitris Fotakis](#)

## RESEARCH INTERESTS

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Foundations of Machine Learning

## PUBLICATIONS\*

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\*Ordering in publications is alphabetical by convention in Theoretical Computer Science/Learning Theory.

**Robustly Learning a Single Neuron via Sharpness** with I. Diakonikolas, J. Diakonikolas, P. Wang (**ICML 2023**) Selected for Oral Presentation

**Information-Computation Tradeoffs for Learning Margin Halfspaces with Random Classification Noise** with I. Diakonikolas, J. Diakonikolas, D. M. Kane, P. Wang (**COLT 2023**)

**Self-Directed Linear Classification** with I. Diakonikolas, V. Kontonis, C. Tzamos (**COLT 2023**)

**SQ Lower Bounds for Learning Mixtures of Separated and Bounded Covariance Gaussians** with I. Diakonikolas, D. M. Kane, T. Pittas (**COLT 2023**)

**Learning a Single Neuron with Adversarial Label Noise via Gradient Descent** with I. Diakonikolas, V. Kontonis, C. Tzamos (**COLT 2022**)

**Learning General Halfspaces with Adversarial Label Noise via Online Gradient Descent** with I. Diakonikolas, V. Kontonis, C. Tzamos (**ICML 2022**)

**Learning General Halfspaces with General Massart Noise under the Gaussian Distribution** with I. Diakonikolas, D. M. Kane, V. Kontonis, C. Tzamos (**STOC 2022**)

**Agnostic Proper Learning of Halfspaces under Gaussian Marginals** with I. Diakonikolas, D. M. Kane, V. Kontonis, C. Tzamos (**COLT 2021**)

**The Optimality of Polynomial Regression for Agnostic Learning under Gaussian Marginals** with I. Diakonikolas, D. M. Kane, T. Pittas (**COLT 2021**)

**Learning Online Algorithms with Distributional Advice** with I. Diakonikolas, V. Kontonis, C. Tzamos, A. Vakilian (**ICML 2021**)

**A Polynomial Time Algorithm for Learning Halfspaces with Tsybakov Noise** with I. Diakonikolas, D. M. Kane, V. Kontonis, C. Tzamos (**STOC 2021**)

**Learning Halfspaces with Tsybakov Noise** with I. Diakonikolas, V. Kontonis, C. Tzamos (**STOC 2021**). Conference version merged with paper above

**Near-Optimal SQ Lower Bounds for Agnostically Learning Halfspaces and ReLUs under Gaussian Marginals** with I. Diakonikolas, D. M. Kane (**NeurIPS 2020**)

**Non-Convex SGD Learns Halfspaces with Adversarial Label Noise** with I. Diakonikolas, V. Kontonis, C. Tzamos (**NeurIPS 2020**)

**Algorithms and SQ Lower Bounds for PAC Learning One-Hidden-Layer ReLU Networks** with I. Diakonikolas, D. M. Kane, V. Kontonis (**COLT 2020**)

**Learning Halfspaces with Massart Noise under Structured Distributions** with I. Diakonikolas, V. Kontonis, C. Tzamos (**COLT 2020**)

**Reallocating Multiple Facilities on the Line** with D. Fotakis, L. Kavouras, P. Koutsopanagiotis, P. Lazos, S. Skoulakis (**TCS 2021**)

**COLT**: Conference on Learning Theory, **ICML**: International Conference on Machine Learning, **NeurIPS**: Advances in Neural Information Processing Systems, **STOC**: ACM Symposium on Theory of Computing, **TCS**: Theoretical Computer Science (Journal)

## MANUSCRIPTS

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**Near-Optimal Bounds for Learning Gaussian Halfspaces with Random Classification Noise** with I. Diakonikolas, J. Diakonikolas, D. M. Kane, P. Wang

**Efficient Testable Learning of Halfspaces with Adversarial Label Noise** with I. Diakonikolas, D. M. Kane, V. Kontonis, S. Liu

## AWARDS

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### 2019-Present

2022: Bodossaki Foundation Fellowship

2021: Outstanding Reviewer Award (NeurIPS 2021): Top 8%

2020: Gerondellis Foundation Fellowship

### 2012-2018, National Technical University of Athens

2014: South Eastern European Mathematical Olympiad for University Students (SEEMOUS) [2014](#): Gold Medal (Rank: 3<sup>rd</sup>) & Member of Greek National Team (after internal competition)

2013: South Eastern European Mathematical Olympiad for University Students (SEEMOUS) [2013](#): Silver Medal (Rank: 11<sup>th</sup>)

2012-2013: Papakyriakopoulos award for excellence in Mathematics

## TEACHING EXPERIENCE

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### Teaching Assistant, UW-Madison

CS760: “Machine Learning” Fall 2022

CS540: “Introduction to Artificial Intelligence” Spring 2022

CS639: “Intro to Computational Learning Theory” Fall-Spring 2020

CS300: “Introduction to Programming II” Fall 2019

### Teaching Assistant, NTUA

“Introduction to Computer Programming” Fall 2013-2019

“Discrete Mathematics” Spring 2018

“Algorithms and Complexity” Fall 2017-2019

## SERVICE

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### Conference Reviewer

Neural Information Processing Systems (NeurIPS): 2022, 2021

Conference on Learning Theory (COLT): 2022

### Journal Reviewer

Theoretical Computer Science (TCS): 2022

Transactions on Machine Learning Research (TMLR): 2022

## TECHNICAL SKILLS

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Python, Mathematica, L<sup>A</sup>T<sub>E</sub>X, Linux

LANGUAGES

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English (fluent), Greek (native)