

Stefan Tiegel

Contact Information	MIT, Computer Science & Artificial Intelligence Laboratory (CSAIL) 32 Vassar Street, Office 32-G626 Cambridge, MA 02139, United States E-Mail: stefan23@mit.edu Website: https://www.stefantiegel.com
Research Interests	algorithms and computational complexity of statistical inference problems, mathematical foundations of Artificial Intelligence, connections between the above and cryptography, algorithm design under robustness and privacy constraints
Current Position	Postdoctoral Fellow, MIT CSAIL Hosted by Samuel B. Hopkins and Guy Bresler Funded by a Postdoc.Mobility Fellowship of the Swiss National Science Foundation
Education	ETH Zurich Ph.D., Computer Science September 2020 - August 2025 Advisor: David Steurer (research stay at MIT for the 23/24 academic year, hosted by Samuel B. Hopkins) ETH Zurich B.Sc. & M.Sc. Computer Science
Honors	Best Student Paper , COLT 2024, for <i>Improved Hardness Results for Learning Intersections of Halfspaces</i> ETH Medal for Outstanding Master Thesis , for <i>SoS Degree Reduction with Applications to Clustering and Robust Moment Estimation</i> (published at SODA 2021)
References	David Steurer (ETH Zurich, dsteurer@inf.ethz.ch) Samuel B. Hopkins (MIT, samhop@mit.edu) Guy Bresler (MIT, guy@mit.edu)
Community Service	Area Chair for NeurIPS and ALT Reviewer for COLT, FOCS, STOC, SODA, JACM, SICCOMP
Publications	

1. Rigorous Implications of the Low-Degree Heuristic

- Jun-Ting Hsieh, Daniel Kane, Pravesh Kothari, Jerry Li, Sidhanth Mohanty, **Stefan Tiegel**
STOC 2026
2. **Improved Robust Estimation for Erdős-Rényi Graphs: The Sparse Regime and Optimal Breakdown Point**
Hongjie Chen, Jingqiu Ding, Yiding Hua, **Stefan Tiegel**
NeurIPS 2025
 3. **Near-Optimal Time-Sparsity Trade-Offs for Solving Noisy Linear Equations**
Kiril Bangachev, Guy Bresler, **Stefan Tiegel**, Vinod Vaikuntanathan
STOC 2025
 4. **SoS Certificates for Sparse Singular Values and Their Applications: Robust Statistics, Subspace Distortion, and more**
Ilias Diakonikolas, Samuel Hopkins, Ankit Pensia, **Stefan Tiegel**
STOC 2025
 5. **Sample-Optimal Private Regression in Polynomial Time**
Prashanti Anderson, Ainesh Bakshi, Mahbod Majid, **Stefan Tiegel**
STOC 2025
 6. **SoS Certifiability of Subgaussian Distributions and its Algorithmic Applications**
Ilias Diakonikolas, Samuel Hopkins, Ankit Pensia, **Stefan Tiegel**
STOC 2025
 7. **Testably Learning Polynomial Threshold Functions**
Lucas Slot, Manuel Wiedmer
NeurIPS 2024
 8. **Robust Mixture Learning when Outliers Overwhelm Small Groups**
Daniil Dmitriev, Rares Buhai, **Stefan Tiegel**, Alexander Wolters, Gleb Novikov, Amartya Sanyal, David Steurer, Fanny Yang
NeurIPS 2024 (author ordering by contribution)
 9. **Improved Hardness Results for Learning Intersections of Halfspaces**
Stefan Tiegel
COLT 2024, **Best Student Paper Award**
 10. **Computational-Statistical Gaps for Improper Learning in Sparse Linear Regression**
Rares-Darius Buhai, Jingqiu Ding, **Stefan Tiegel**
COLT 2024
 11. **Private estimation algorithms for stochastic block models and mixture models**
Hongjie Chen, Vincent Cohen-Addad, Tommaso d’Orsi, Alessandro Epasto, Jacob Imola, David Steurer, **Stefan Tiegel**
NeurIPS 2023

12. **Robust Mean Estimation Without Moments for Symmetric Distributions**
Gleb Novikov, David Steurer, **Stefan Tiegel**
NeurIPS 2023
13. **Hardness of Agnostically Learning Halfspaces from Worst-Case Lattice Problems**
Stefan Tiegel
COLT 2023
14. **Optimal SQ Lower Bounds for Learning Halfspaces with Massart Noise**
Rajai Nasser, **Stefan Tiegel**
COLT 2022
15. **Fast algorithm for overcomplete order-3 tensor decomposition**
Jingqiu Ding, Tommaso d’Orsi, Chih-Hung Liu, **Stefan Tiegel**, David Steurer
COLT 2022
16. **Consistent Estimation for PCA and Sparse Regression with Oblivious Outliers**
Tommaso d’Orsi, Chih-Hung Liu, Rajai Nasser, Gleb Novikov, David Steurer, **Stefan Tiegel**
NeurIPS 2021
17. **SoS Degree Reduction with Applications to Clustering and Robust Moment Estimation**
David Steurer, **Stefan Tiegel**
SODA 2021
18. **A Framework for Searching in Graphs in the Presence of Errors**
Dariusz Dereniowski, **Stefan Tiegel**, Przemysław Uznański, Daniel Wolleb-Graf
SOSA 2019