

Chen Dan

PhD Student, Department of Computer Science, Carnegie Mellon University

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- Research** My research interest is in learning theory and optimization, with a focus on:
- Adversarial Robustness
 - Statistical Learning
 - Combinatorial/Non-convex optimization
- Education** **Carnegie Mellon University, Computer Science Department** *Aug 2016 - Present*
Ph.D in Computer Science
- **Advisor:** Prof. Pradeep Ravikumar
 - **Courses:** Advanced Introduction to Machine Learning; A Theorist's Toolkit; Statistical Learning Theory; Multimedia Database and Data Mining; Convex Optimization; Graduate Artificial Intelligence; Computer Architecture; Statistics Meets Optimization: Randomized Sketching Methods
 - **Teaching:** Teaching assistant for Convex Optimization (Fall 2019).
Instructor: Ryan Tibshirani.
- Toyota Technological Institute at Chicago** *May 2018 - Aug 2018*
Visiting Student
- **Host:** Prof. Avrim Blum
- Peking University, School of EECS** *Sep 2012 - July 2016*
Bachelor of Science in Machine Intelligence
- **Bachelor Thesis:** *On Low Rank Approximation of Binary Matrices*,
Top 10 Bachelor Thesis Award in EECS, PKU
Thesis Advisor: Prof. Liwei Wang
 - **Awards:**
 - Top 10 Bachelor Thesis Award in School of EECS, 2016
(10/320 in School of EECS, 1/46 in Department of Machine Intelligence)
 - Outstanding Undergraduate Research Award - Second Prize, 2015
(3/320 in School of EECS, 1/46 in Department of Machine Intelligence)
 - May Fourth Scholarship, 2015
 - 8508 Alumni Scholarship, 2014
 - Suzhou Industrial Park Scholarship, 2013
- Publications** * Alphabetical Order or Equal Contribution
1. **Chen Dan**, Hong Wang*, Hongyang Zhang*, Yuchen Zhou*, Pradeep Ravikumar
Optimal Analysis of Subset-Selection Based L_p Low Rank Approximation
33rd Conference on Neural Information Processing Systems (NeurIPS 2019)
 2. **Chen Dan**, Liu Leqi, Bryon Aragam, Pradeep Ravikumar, Eric P. Xing,
The Sample Complexity of Semi-Supervised Learning with Nonparametric Mixture Models
32nd Conference on Neural Information Processing Systems (NeurIPS 2018), arXiv 1809.03073

3. Bryon Aragam, **Chen Dan**, Pradeep Ravikumar, Eric Xing,
Identifiability of Nonparametric Mixture Models and Bayes Optimal Clustering,
Annals of Statistics 2019, *arXiv 1802.04397*
4. Haris Angelidakis*, Pranjali Awasthi*, Avrim Blum*, Vaggos Chatziafratis*, **Chen Dan***
Bilu-Linial Stability, Certified Algorithms and the Independent Set Problem
27th Annual European Symposium on Algorithms (ESA 2019), *arXiv 1810.08414*
5. **Chen Dan**, Kristoffer Arnsfelt Hansen, He Jiang, Liwei Wang and Yuchen Zhou,
On Low Rank Approximation of Binary Matrices
43rd International Symposium on Mathematical Foundations of Computer Science (MFCS 2018), *arXiv 1511.01699*
6. Runtian Zhai, Tianle Cai, Di He, **Chen Dan**, Kun He, John Hopcroft, Liwei Wang,
Adversarially Robust Generalization Just Requires More Unlabeled Data
in submission, *arXiv 1906.00555*
7. Xun Zheng, **Chen Dan**, Bryon Aragam, Pradeep Ravikumar, Eric P. Xing
Learning Sparse Nonparametric DAGs
in submission, *arXiv 1909.13189*
8. **MACER: Attack-free and Scalable Robust Training via Maximizing Certified Radius**
in submission to ICLR 2020

Services Reviewer for NeurIPS 2019 (Top 50% reviewer), SODA 2019, ITCS 2019.

Skills C/C++, Matlab, Python, LaTeX