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:
- Statistical Learning Theory
- Robustness in Machine Learning

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; Coumpter Architecture; Statistics Meets Optimization: Randomized Sketching Methods
- **Teaching:**
    - TA for Convex Optimization (Fall 2019), Instructor: Ryan Tibshirani.
    - TA for Practical Data Science (Spring 2021), Instructor: Zico Kolter.

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. Runtian Zhai*, **Chen Dan***, Pradeep Ravikumar, Zico Kolter
DORO: Distributional and Outlier Robust Optimization
38th International Conference on Machine Learning (ICML 2021)

2. Avrim Blum*, **Chen Dan***, Saeed Seddighin*
Learning Complexity of Simulated Annealing
24th International Conference on Artificial Intelligence and Statistics (AISTATS 2021),
arXiv 2003.02981

3. **Chen Dan**, Yuting Wei, Pradeep Ravikumar
   Sharp Statistical Guarantees for Adversarially Robust Gaussian Classification
   37th International Conference on Machine Learning (ICML 2020)

4. Runtian Zhai*, **Chen Dan***, Di He*, Huan Zhang, Boqing Gong, Pradeep Ravikumar, Cho-Jui Hsieh, Liwei Wang
   MACER: Attack-free and Scalable Robust Training via Maximizing Certified Radius
   2020 International Conference on Learning Representations (ICLR 2020), arXiv:2001.02378

5. **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), arXiv 1910.13618

6. Haris Angelidakis*, Pranjal 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

7. **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

8. **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

9. Ziyu Neil Xu, **Chen Dan**, Justin Khim, Pradeep Ravikumar
   Class-Weighted Classification: Trade-offs and Robust Approaches
   37th International Conference on Machine Learning (ICML 2020), arXiv 2005.12914

10. Xun Zheng, **Chen Dan**, Bryon Aragam, Pradeep Ravikumar, Eric P. Xing
    Learning Sparse Nonparametric DAGs
    23rd International Conference on Artificial Intelligence and Statistics (AISTATS 2020), arXiv 1909.13189

11. Bryon Aragam, **Chen Dan**, Pradeep Ravikumar, Eric Xing,
    Identifiability of Nonparametric Mixture Models and Bayes Optimal Clustering,
    Annals of Statistics 2019, arXiv 1802.04397

12. 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

Services Reviewer of:
- NeurIPS 2019 (Top 50% reviewer), 2020, 2021
- ICML 2020 (Top 33% reviewer), 2021 (Expert Reviewer)
- ICLR 2021
- AAAI 2021
- ICALP 2021
- SODA 2019

- ITCS 2019.

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