Chicheng Zhang — Curriculum Vitæ

Current Position

Assistant Professor — 2019.8 - Now
Department of Computer Science

Affiliate Member
Graduate Interdisciplinary Program in Statistics — 2019.11 - Now
Graduate Interdisciplinary Program in Applied Mathematics — 2020.2 - Now

University of Arizona
Tucson, AZ

Research interest: interactive machine learning, learning theory

Education

PhD, Computer Science — 2012.9-2017.9
UC San Diego, La Jolla, CA
Advisor: Kamalika Chaudhuri
Thesis: Active learning and confidence-rated prediction

Master of Science, Computer Science — 2012.9-2015.6
UC San Diego, La Jolla, CA

Bachelor of Science, Machine Intelligence, School of EECS — 2008.9-2012.7
Peking University, Beijing, China

Second Degree Certificate, Mathematics and Applied Mathematics — 2008.9-2012.7
Peking University, Beijing, China

Experience

Postdoctoral Researcher — 2017.9-2019.6
Machine Learning Group
Microsoft Research, New York City

Research Intern — 2016.6-2016.9
Yahoo! Research, New York
Supervisor: Dr. Alina Beygelzimer and Dr. Francesco Orabona

Research Intern — 2015.6-2015.9
Yahoo! Labs, New York
Supervisor: Dr. Alina Beygelzimer

Research Assistant — 2012.9-2017.8
Computer Science and Engineering Department, UC San Diego
Supervisor: Prof. Kamalika Chaudhuri

Undergraduate Research Assistant — 2010.6-2012.6
Department of Machine Intelligence, Peking University
Supervisor: Prof. Liwei Wang

Software Testing Intern — 2011.7-2011.8
MicroVu Co. China

Publications

Conference Papers

Jordan T. Ash, Chicheng Zhang, Akshay Krishnamurthy, John Langford, and Alekh Agarwal. Deep batch active learning by diverse, uncertain gradient lower bounds. *ICLR*, 2020.

Akshay Krishnamurthy, John Langford, Aleksandrs Slivkins, and Chicheng Zhang. Contextual bandits with continuous actions: Smoothing, zooming, and adapting. In *Proceedings of the Thirty-Second Conference on Learning Theory*, volume 99 of *Proceedings of Machine Learning Research*, pages 2025–2027. PMLR, 2019.

Alina Beygelzimer, David Pal, Balazs Szorenyi, Devanathan Thiruvenkatachari, Chen-Yu Wei, and Chicheng Zhang. Bandit multiclass linear classification: Efficient algorithms for the separable case. In *Proceedings of the 36th International Conference on Machine Learning*, volume 97 of *Proceedings of Machine Learning Research*, pages 624–633. PMLR, 2019.

Chicheng Zhang, Alekh Agarwal, Hal Daumé III, John Langford, and Sahand Negahban. Warm-starting contextual bandits: Robustly combining supervised and bandit feedback. In *Proceedings of the 36th International Conference on Machine Learning*, volume 97 of *Proceedings of Machine Learning Research*, pages 7335–7344. PMLR, 2019.

Chicheng Zhang. Efficient active learning of sparse halfspaces. In *Conference On Learning Theory*, pages 1856–1880, 2018.

Songbai Yan and Chicheng Zhang. Revisiting perceptron: Efficient and label-optimal learning of halfspaces. In *Advances in Neural Information Processing Systems*, pages 1056–1066, 2017.

Alina Beygelzimer, Francesco Orabona, and Chicheng Zhang. Efficient online bandit multiclass learning with $\tilde{O}(\sqrt{T})$ regret. In *Proceedings of the 34th International Conference on Machine Learning-Volume 70*, pages 488–497. JMLR. org, 2017.

Chicheng Zhang and Kamalika Chaudhuri. The extended littlestone's dimension for learning with mistakes and abstentions. In *Conference on Learning Theory*, pages 1584–1616, 2016.

Alina Beygelzimer, Daniel J Hsu, John Langford, and Chicheng Zhang. Search improves label for active learning. In *Advances in Neural Information Processing Systems*, pages 3342–3350, 2016.

Chicheng Zhang and Kamalika Chaudhuri. Active learning from weak and strong labelers. In *Advances in Neural Information Processing Systems*, pages 703–711, 2015.

Chicheng Zhang, Jimin Song, Kamalika Chaudhuri, and Kevin Chen. Spectral learning of large structured hmms for comparative epigenomics. In *Advances in Neural Information Processing Systems*, pages 469–477, 2015.

Chicheng Zhang and Kamalika Chaudhuri. Beyond disagreement-based agnostic active learning. In *Advances in Neural Information Processing Systems*, pages 442–450, 2014.

Preprints

Chicheng Zhang, Jie Shen, and Pranjal Awasthi. Efficient active learning of sparse halfspaces with arbitrary bounded noise. *arXiv preprint arXiv:2002.04840*, 2020.

Chicheng Zhang, Eran A. Mukamel, and Kamalika Chaudhuri. Spectral learning of binomial hmms for DNA methylation data. *CoRR*, abs/1802.02498, 2018.

Selected Talks

New directions in contextual bandits learning: continuous actions and linear separability
TRIPODS Seminar, University of Arizona — Sep 2019

Contextual bandits with continuous actions: smoothing, zooming, and adapting
COLT 2019, Phoenix — June 2019

Efficient and robust interactive learning — February - April, 2019
Illinois Institute of Technology — Host: Gady Agam and Zhiling Lan
University of Arizona — Host: John Kececioglu
Stevens Institute of Technology — Host: Jie Shen
University of Minnesota Twin Cities — Host: Dan Boley
Pennsylvania State University — Host: David Miller
University of Connecticut — Host: Alexander Russell
Rensselaer Polytechnic Institute — Host: Alex Gittens
University of Illinois at Chicago — Host: Brian Ziebart

Efficient active learning of sparse halfspaces
TRIPODS RWG6 Seminar, University of Arizona — Sep 2019
ALT 2019 Workshop on "when smaller sample sizes suffice for learning", Chicago — March 2019

Interactive learning with data-efficiency and robustness guarantees
Peking University EECS Youth Forum — December 2018
Microsoft Research Asia, Beijing — January 2019
Baidu Research, Beijing — Jaunary 2019

Efficient online bandit multiclass learning with $\tilde{O}(\sqrt{T})$ regret
ICML 2017, Sydney — August 2017
International Chinese Statisticial Association Symposium, New Brunswick — June 2018

Computationally and statistically efficient active learning of linear separators
Machine Learning PhD Seminar, New York University — March 2018

Tutorial on statistical foundations of interactive learning — June 2017
ISIT 2017, Aachen (co-presented with Kamalika Chaudhuri and Tara Javidi)

New directions in active learning
Microsoft Research, New York — March 2017
Google Research, New York — March 2017

Confidence-based active learning
Yahoo! Research, New York — Feburary 2017
Computational Statistics and Machine Learning Seminar, UCSD — May 2015

The extended Littlestone's dimension for learning with mistakes and abstentions
COLT 2016, New York — June 2016

Teaching

Instructor — CSC 665 – Machine Learning Theory, University of Arizona. — Fall 2019

Teaching Assistant	CSE 151 – Introduction to Machine Learning, UCSD.	Spring 2015, Winter 2017
	CSE 202 – Graduate Algorithms, UCSD.	Spring 2016
	CSE 250C – Machine Learning Theory, UCSD.	Spring 2017

Awards	ICML student / postdoc travel grant	2017, 2019
	NeurIPS student travel grant	2016
	4th place in ACM Southern California Regional Programming Contest	2015
	8th place in ACM Southern California Regional Programming Contest	2013
	2nd place in UCSD Programming Contest	2013
	UCSD Graduate Student Fellowship	2012
	Li Huirong Scholarship	2011
	3rd Prize in Beijing Collegiate Mathematical Contest	2011
	Starlight International Media Scholarship	2010
	Merit Student Award	2009
	3rd Prize in National Mathematics Olypiad in Province	2007

Services

Workshop Co-organizer	ICML 2017 Workshop on Picky Learners: Choosing Alternative Ways to Process Data (with Kamalika Chaudhuri, Corinna Cortes, Giulia DeSalvo, Mehryar Mohri and Ningshan Zhang).
Area Chair	AISTATS 2019, NeurIPS 2019, ICML 2020.
Conference Reviewer	UAI 2015-2016, NeurIPS 2015-2019, AISTATS 2016-2018, 2020, ICML 2016-2019, ICLR 2018, COLT 2014-2020, ALT 2015, AAAI 2019.
Journal Reviewer	IEEE Transactions on Pattern Analysis and Machine Intelligence, IEEE Transactions on Information Theory, IEEE Journal on Selected Areas in Information Theory, Journal of Artificial Intelligence Research, Journal of the ACM, Journal of Machine Learing Research, Theoretical Computer Science.

Skills	C/C++, Java, Python, Matlab, Assembly, SQL.

March 29, 2020