

Tao Xiao

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Education

Shanghai Jiao Tong University 2013/09-2019/06(expected)
Ph.D in Computer Science Shanghai, China
Advisors: Prof. Xiaotie Deng and Prof. Pinyan Lu
Thesis: Mechanism Design Through the Lens of Approximation.

Shanghai Jiao Tong University 2009/09-2013/07
B.E. in Computer Science Shanghai, China

No.2 Middle School of Jingdezhen, Jiangxi. 2006/09-2009/06

Research Interest

I have a broad interest in theoretical computer science, economics and their applications. Currently my focus is on algorithmic mechanism design, social choice theory, and their applications.

Working Papers

Size Relaxing Approximation Algorithms for Committee Selection
Tao Xiao, Sujoy Sikdar and Lirong Xia

On the complexity of Sequential Posted Pricing
Tao Xiao and Zhengyang Liu

Publications ¹

Tight Approximation Ratio of Anonymous Pricing
Yaonan Jin, Pinyan Lu, Qi Qi, Zhihao Tang and Tao Xiao
STOC'19 [CCF A]

Tight Revenue Gaps among Simple Mechanisms
Yaonan Jin, Pinyan Lu, Zhihao Tang and Tao Xiao
SODA'19 [CCF A]

Nearly tight bounds for sandpile transience on the grid
David Durfee, Matthew Fahrbach, Yu Gao and Tao Xiao
SODA'18 [CCF A]

¹According to tradition in Theoretical Computer Science area, all authors are listed in alphabetical order. Unless a work includes people from other community and are targeted to publish in other areas, researchers from TCS community all follow this tradition.

Learn to Play Maximum Revenue Auction

Xiaotie Deng, Tao Xiao and Keyu Zhu
IEEE Transactions on Cloud Computing 2017.

Liquid Welfare Maximization in Auctions with Multiple Items

Pinyan Lu and Tao Xiao
SAGT'17

Improved Efficiency Guarantees in Auctions with Budgets

Pinyan Lu and Tao Xiao
EC'15²

Research Experiences

Visiting Student

CFCS, Peking University
Host: Prof. Xiaotie Deng
Topic: Learn to play maximum revenue auction. Online auction with budgets.

2019/4-present
Beijing, China

Visiting Student

ITCS, Shanghai University of Finance and Economics
Host: Prof. Pinyan Lu
Topic: Understanding the power and limit of simple mechanisms.

2018/10-2019/3
Shanghai, China

Visiting Scholar

McGill University
Host: Prof. Yang Cai
Topic: Complexity of mechanism design. Simple mechanism with budget.

2017/10-2018/10
Montreal, QC, Canada

Visiting Student

ITCS, Shanghai University of Finance and Economics
Host: Prof. Pinyan Lu
Topic: Revenue gaps among simple mechanisms.

2016/06-2017/10
Shanghai, China

Research Intern

Microsoft Research Asia
Mentor: Dr. Pinyan Lu
Topic: Welfare maximization in auctions with budgets.

2014/01-2014/04
Shanghai, China

Research Intern

HP Labs China
Mentor: Dr. Zhiyong Shen
Topic: Network latency estimation and prediction.

2012/07-2013/02
Beijing, China

Teaching Assistants

Project Workshop of Database Design

Spring 2013

Game Theory and Mechanism Design *by Jing Chen*

Summer 2013

²Although not listed in CCF conference list, this conference is actually the best conference in EconCS area: if you ask an EconCS researcher in U.S., he/she would say with very high probability that EC is better than SODA when judging EconCS papers. Remind that SODA is now list as CCF rank A conference in theoretical computer science.

Automata Theory <i>by John Hopcroft</i>	Winter 2014
Approximation Algorithms <i>by Ning Chen</i>	Summer 2014
Probability and Computing <i>by Yitong Yin</i>	Summer 2015
Spatial and Temporal Data Analysis <i>by Yu Zheng</i>	Summer 2015
Algorithms and Complexity <i>by Dominik Scheder</i>	Fall 2015
Algorithms and Complexity <i>by Dominik Scheder</i>	Fall 2016
Computer Science Theory in the Information Age <i>by John Hopcroft</i>	Winter 2016

Talks

On the Complexity of Sequential Posted Pricing. International Frontiers of Algorithmics (FAW) 2019	May 2 2019 Sanya, Hainan, China
Welfare Maximization in Auctions with Budgets. Bellairs Workshop on Algorithmic Game Theory	Apr 10 2018 Barbados
Welfare Maximization in Auctions with Budgets. Theory lunch at McGill University	Nov 9 2018 Montreal, QC, Canada
Welfare Maximization in Auctions with Budgets. China Theory Week 2017	Jul 19 2017 Shanghai, China
Improved Efficiency Guarantees in Auctions with Budgets. Conference talk at ACM conference on Economics and Computation (EC) 2015	Jun 18 2015 Portland, OR, USA
Improved Efficiency Guarantees in Auctions with Budgets. CICGTA 2014	Dec 12 2014 Shanghai, China

Honors and Awards

<i>Silver Medal</i> in Chinese Mathematical Olympiad	2009/01
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Activities

China Theory Week 2015. Serving as main contact to organize this event.	2015/08 Shanghai, China
CICGTA 2014 Serving as volunteer in this event.	2014/12 Shanghai, China