

许超

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简介

许超本科就读于美国石溪大学，博士就读于美国 UIUC 大学，师从算法领域著名专家 Chandra Chekuri 教授。毕业后曾在 Yahoo! Research 等公司担任研发科学家，2021 年底回国加入电子科技大学。许博士主要从事的是组合优化和算法的基础研究，致力于经典 NP 完全问题的理论分析与解决方案，在 SODA (4 篇), SICOMP (1 篇), Mathematical Programming (3 篇) 等组合优化和算法的国际顶级期刊和会议上发表学术论文 18 篇。给出了子集合问题、图最小割问题等教材中经典问题的改进算法。

科研兴趣和范围

组合优化, 计算几何和算法的理论以及工业界的应用.

教育背景

2013.08 - 2018.05

学位: 博士, 伊利诺伊大学厄巴纳-香槟分校 (University of Illinois at Urbana-Champaign (UIUC))

专业: 计算机科学

导师: Karthekeyan Chandrasekaran (工业与系统工程系), Chandra Chekuri (计算机科学系)

2009.08 - 2013.05

学位: 学士学位, 石溪大学 (Stony Brook University)

专业: 数学, 应用数学和统计

学术任职

10.2021- 助理教授, 电子科技大学计算机科学与工程学院
现在 算法与逻辑团队.

访问职位

6.-8. 访问学者, 国立情报学研究所 (National Institute of Informatics), 东京, 日本.
2017 邀请人 Ken-ichi Kawarabayashi.

6.-8 访问学者, 纽约大学 (New York University), 纽约, 美国.
2015 邀请人 Boris Aronov.

学术论文¹

学术会议论文

- 2022* Jingyang Zhao, Mingyu Xiao, and Chao Xu. Improved Approximation Algorithms for The Traveling Tournament Problem. In *International Symposium on Mathematical Foundations of Computer Science (MFCS)*, 2022. Accepted.
- 2020 Calvin Beideman, Karthekeyan Chandrasekaran, and Chao Xu. Multicriteria Cuts and Size-Constrained k -Cuts in Hypergraphs. In Jaroslaw Byrka and Raghu Meka, editors, *Approximation, Randomization, and Combinatorial Optimization. Algorithms and Techniques (APPROX/RANDOM 2020)*, volume 176 of *Leibniz International Proceedings in Informatics (LIPIcs)*, pages 17:1–17:21, Dagstuhl, Germany, 2020. Schloss Dagstuhl–Leibniz-Zentrum für Informatik.
- 2019 Chandra Chekuri, Kent Quanrud, and Chao Xu. LP Relaxation and Tree Packing for Minimum k -cuts. In Jeremy T. Fineman and Michael Mitzenmacher, editors, *2nd Symposium on Simplicity in Algorithms (SOSA 2019)*, volume 69 of *OpenAccess Series in Informatics (OASICS)*, pages 7:1–7:18, Dagstuhl, Germany, 2018. Schloss Dagstuhl–Leibniz-Zentrum fuer Informatik.
- 2018 Karthekeyan Chandrasekara, Chao Xu, and Xilin Yu. Hypergraph k -cut in randomized polynomial time. In *Proceedings of the Twenty-Ninth Annual ACM-SIAM Symposium on Discrete Algorithms (SODA)*, pages 1426–1438, 2018.
- 2017 Kristóf Bérczi, Karthekeyan Chandrasekaran, Tamás Király, Euiwoong Lee, and Chao Xu. Global and Fixed-Terminal Cuts in Digraphs. In *Approximation, Randomization, and Combinatorial Optimization. Algorithms and Techniques (APPROX/RANDOM 2017)*, volume 81 of *Leibniz International Proceedings in Informatics (LIPIcs)*, pages 2:1–2:20, Dagstuhl, Germany, 2017.
- 2017 Konstantinos Koiliaris and Chao Xu. A faster pseudopolynomial time algorithm for subset sum. In *Proceedings of the Twenty-Eighth Annual ACM-SIAM Symposium on Discrete Algorithms (SODA)*, pages 1062–1072. SIAM, 2017.
- 2017 Chandra Chekuri and Chao Xu. Computing minimum cuts in hypergraphs. In *Proceedings of the Twenty-Eighth Annual ACM-SIAM Symposium on Discrete Algorithms (SODA)*, pages 1085–1100. SIAM, 2017.
- 2015 Chandra Chekuri, Thapanapong Rukkanchanunt, and Chao Xu. On element-connectivity preserving graph simplification. In Nikhil Bansal and Irene Finocchi, editors, *Algorithms - ESA 2015*, volume 9294 of *Lecture Notes in Computer Science*, pages 313–324. Springer Berlin Heidelberg, 2015.
- 2015 Hsien-Chih Chang, Jeff Erickson, and Chao Xu. Detecting weakly simple polygons. In *Proceedings of the Twenty-Sixth Annual ACM-SIAM Symposium on Discrete Algorithms (SODA)*, pages 1655–1670. SIAM, 2015.

学术期刊论文

- 2020 Ken-ichi Kawarabayashi and Chao Xu. Minimum violation vertex maps and their applications to cut problems. *SIAM Journal on Discrete Mathematics*, 34(4):2183–2207, 2020.
- 2020 Amir Gharehgozli, Chao Xu, and Wenda Zhang. High multiplicity asymmetric traveling salesman problem with feedback vertex set and its application to storage/retrieval system. *European Journal of Operational Research*, 289(2):495–507, 2021.
- 2020 Chandra Chekuri, Kent Quanrud, and Chao Xu. LP Relaxation and Tree Packing for Minimum k -Cut. *SIAM Journal on Discrete Mathematics*, 34(2):1334–1353, 2020.
- 2019 Karthekeyan Chandrasekaran, Chao Xu, and Xilin Yu. Hypergraph k -cut in randomized polynomial time. *Mathematical Programming*, 186:85–113, March 2021.

¹理论计算机和数学惯例，作者按照姓的字母序排列。除打 * 号的特例，作者均字母序。

- 2019 Konstantinos Koiliaris and Chao Xu. Faster pseudopolynomial time algorithms for subset sum. *ACM Trans. Algorithms*, 15(3):40:1–40:20, June 2019.
- 2018 Chandra Chekuri and Chao Xu. Minimum cuts and sparsification in hypergraphs. *SIAM Journal on Computing*, 47(6):2118–2156, 2018.
- 2018 Chao Xu and Qian Zhang. The shortest kinship description problem. *Information Processing Letters*, 138:61 – 66, 2018.
- 2018 Kristóf Bérczi, Karthekeyan Chandrasekaran, Tamás Király, Euiwoong Lee, and Chao Xu. Beating the 2-approximation factor for global bicut. *Mathematical Programming*, 177(1):291–320, Sep 2019.
- 2016 Chao Xu. Reconstructing edge-disjoint paths faster. *Operations Research Letters*, 44(2):174 – 176, 2016.
- 2013 Neil J. Calkin, Janine E. Janoski, Allison Nelson, Sydney Ryan, and Chao Xu. Champion spiders in the game of Graph Nim. *Congr. Numer.*, 218:5–19, 2013.

教学经历

- 2016 秋 助教, CS 374 算法与计算模型, 伊利诺伊大学厄巴纳-香槟分校
- 2015 秋 助教, CS 498 计算机理论 II, 伊利诺伊大学厄巴纳-香槟分校
- 2015 春 助教, CS 498 计算机理论 II, 伊利诺伊大学厄巴纳-香槟分校
- 2014 秋 助教, CS 374 算法与计算模型, 伊利诺伊大学厄巴纳-香槟分校
- 2013 秋 助教, CS 373 计算理论导论, 伊利诺伊大学厄巴纳-香槟分校
- 2010 秋 助教, AMS 345 计算几何, 石溪大学

业界经验

- 3.2020- 软件工程师, Voleon, Berkeley, CA, USA.
- 3.2021 研究工程组.
- 9.2019- 高级软件工程师, Grab, Bellevue, WA, USA.
- 3.2020 Grab 人工智能组. 优惠匹配和投放.
- 6.2018- 研究科学家, 雅虎研究院 (Yahoo! Research), 纽约, 美国.
- 8.2019 大规模机器学习组. 计算广告.