

Li Chen

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Education

Georgia Institute of Technology , Atlanta, GA	<i>Aug 2019 - Aug 2023</i>
Ph.D. in Computer Science/Algorithms, Combinatorics and Optimization (ACO)	
Advisor: Richard Peng	
National Taiwan University , Taipei, Taiwan	<i>Sep 2014 - Jul 2018</i>
B.S. in Computer Science and Information Engineering (CSIE)	

Employment

Carnegie Mellon University , Pittsburgh, PA	<i>Oct 2023 - current</i>
Post Doctoral Fellow, Computer Science Department	

Awards and Honors

Best Paper Award , IEEE Symposium on Foundations of Computer Science (FOCS)	<i>2022</i>
2nd place , ICPC North America Championship	<i>2020</i>
Champion , ICPC Southeast USA Regional	<i>2019</i>
Fourteenth Place , ACM ICPC World Finals	<i>2018</i>
Champion , ACM ICPC Asia Hualien Regional	<i>2017</i>
Champion , National Collegiate Programming Contest of Taiwan	<i>2014-2015, 2017</i>
Bronze Medalist , International Olympiad in Informatics	<i>2013</i>

Publications

Results in Theoretical Computer Science are often published at conferences. FOCS, STOC, and SODA are the three top conferences in our field according to the CORE Ranking and the Google Scholar Ranking.

- *Incremental Approximate Maximum Flow on Undirected Graphs in Subpolynomial Update Time.*
Jan van den Brand, **Li Chen**, Rasmus Kyng, Yang P. Liu, Richard Peng, Maximilian Probst Gutenberg, Sushant Sachdeva, Aaron Sidford.
ACM-SIAM Symposium on Discrete Algorithms (SODA 2024).
- *A Deterministic Almost-Linear Time Algorithm for Minimum-Cost Flow.* (arxiv:2309.16629)
Jan van den Brand, **Li Chen**, Rasmus Kyng, Yang P. Liu, Richard Peng, Maximilian Probst Gutenberg, Sushant Sachdeva, Aaron Sidford.
IEEE Symposium on Foundations of Computer Science (FOCS 2023).
- *Exponential Convergence of Sinkhorn Under Regularization Scheduling.* (arxiv:2207.00736)
Jingbang Chen, **Li Chen**, Yang P. Liu, Richard Peng, Arvind Ramaswami.
SIAM Conference on Applied and Computational Discrete Algorithms (ACDA 2023)
- *A Simple Framework for Finding Balanced Sparse Cuts via APSP.* (arxiv:2209.08845)
Li Chen, Rasmus Kyng, Maximilian Probst Gutenberg, Sushant Sachdeva.
SIAM Symposium on Simplicity in Algorithms (SOSA 2023)
- *Maximum Flow and Minimum-Cost Flow in Almost-Linear Time.* (arxiv:2203.00671)
Li Chen, Rasmus Kyng, Yang P. Liu, Richard Peng, Maximilian Probst Gutenberg, Sushant Sachdeva.
IEEE Symposium on Foundations of Computer Science (FOCS 2022). **Best Paper Award.**
- *ℓ_2 -norm Flow Diffusion in Near-Linear Time.* (arxiv:2105.14629)
Li Chen, Richard Peng, Di Wang.
IEEE Symposium on Foundations of Computer Science (FOCS 2021).
- *Fast Dynamic Cuts, Distances and Effective Resistances via Vertex Sparsifiers.* (arxiv:2005.02368)
Li Chen, Gramoz Goranci, Monika Henzinger, Richard Peng, Thatchaphol Saranurak.
IEEE Symposium on Foundations of Computer Science (FOCS 2020).

Talks

<i>A Simple Framework for Finding Balanced Sparse Cuts via APSP</i>	
- SOSA 2023, Florence, Italy	Jan 2023
<i>Maximum Flow and Minimum-Cost Flow in Almost-Linear Time</i>	
- Chicago Junior Theorists Workshop, TTIC	Jan 2023
- Plenary Session, FOCS, Denver, CO	Nov 2022
- Graduate Student Seminar, National Taiwan Normal University	Sep 2022
- Theory Seminar, Academia Sinica	Sep 2022
- Optimization Meeting, Meta	July 2022
- Algorithms Seminar, Google	May 2022
- Graduate Student Seminar, National Taiwan University	Apr 2022
- Theory Lunch, University of Southern California	Apr 2022
- Theory Seminar, University of Washington	Apr 2022
- Theory Seminar, Stanford University	Mar 2022
<i>ℓ_2-norm Flow Diffusion in Near-Linear Time</i>	
- FOCS 2021, Virtual	Feb 2022
- ACO Student Seminar, Georgia Tech	Nov 2021

Professional Experience

Research Intern, Core Data Science, Meta, Menlo Park, CA	May 2022 - Aug 2022
Worked in the Economics, Algorithms, and Optimization team with Dr. Sergey Pupyrev. Developed algorithms for code generation via Profile-Guided Optimization (PGO) and graph arrangement. Improved binary performance across major tasks in data centers.	
Software Engineering Intern, Google, Kirkland, WA	Jul 2018 - Sep 2018
Worked on Search Ads 360 data pipeline with Mr. Lu Han. Developed a new feature for integrating third-party data (Adobe Analytics) automatically.	
Research Assistant, National Taiwan University, Taipei, Taiwan,	Jun 2017 - Jan 2019
Studied various 1st order methods for large-scale logistic regression with focus on their competitive performance on CTR (Click-Through-Rate) prediction task. Advisor: Prof. Chih-Jen Lin	
Software Engineering Intern, Mixerbox, Taipei, Taiwan	Apr 2017 - Jul 2017, Sep 2017 - Feb 2018
Worked on the recommendation system used by the music app Mixerbox for content generation in a large scale setting (over 100 million downloads and 1 million daily active users).	
Quantitative Research Intern, WorldQuant, Taipei, Taiwan	Aug 2017 - Sep 2017
Developed quantitative financial models using a stock market simulation system (WebSim).	
Software Engineering Intern, Google, Taipei, Taiwan	Jul 2016 - Sep 2016
Worked on Android's boot loader. Speed up an essential procedure to gather hardware information in boot loader. More details: https://source.android.com/devices/architecture/dto/optimize	

Service

Subreviewer for SODA 2024, ESA 2023, FOCS 2023, SODA 2023, ACDA 2023, ESA 2022, ICALP 2022, STOC 2022, ISAAC 2020