Jie Xue

Personal Data

Address:	Room S740, 567 West Yangsi Road, Pudong District, Shanghai, China 200126
Phone:	+86 19538882526
Homepage:	jie-xue.github.io
Email:	jiexue@nyu.edu

Employment

Aug 2021 - Current	*Assistant Professor* **New York University Shanghai**, China
Sept 2019 - Aug 2021	*Postdoctoral Scholar* **University of California, Santa Barbara**, USA Hosts: Prof. Subhash Suri and Prof. Daniel Lokshtanov
Jan 2015 - May 2018	*Teaching Assistant* **University of Minnesota, Twin Cities**, USA Courses: CSci4011 - Formal Languages and Automata Theory CSci2011 - Discrete Structures Csci5421 - Advanced Algorithms & Data Structures

Education

Sept 2014 - July 2019	Doctoral Degree **University of Minnesota, Twin Cities**, USA Major: Computer Science Minor: Mathematics Research Interests: Computational Geometry, Algorithms Advisor: Prof. Ravi Janardan GPA: 4.0/4.0
Sept 2011 - Apr 2014	Master's Degree **Nanjing University of Aeronautics & Astronautics**, China Major: Computer Technology Advisor: Prof. Songcan Chen
Sept 2008 - June 2011	Bachelor's Degree **Nanjing University of Aeronautics & Astronautics**, China Major: Computer Science & Technology

Publications

(Authors with * are sorted by α-β order. Others are sorted by contribution.)

Journal publications

1. Pankaj K. Agarwal*, Hsien-Chih Chang*, Subhash Suri*, Allen Xiao*, **Jie Xue***, Dynamic geometric set cover and hitting set. In *ACM Transactions on Algorithms*, 2022.
2. **Jie Xue**, Yuan Li, Rahul Saladi, Ravi Janardan, New bounds for range closest-pair problems. In *Discrete & Computational Geometry*, 2022.
3. Haitao Wang*, **Jie Xue***, Improved algorithms for the bichromatic 2-center problem for pairs of points. In *Computational Geometry: Theory and Applications*, 2021.

4. **Jie Xue**, Yuan Li, Rahul Saladi, Ravi Janardan, Searching for the closest-pair in a query translate. In *Journal of Computational Geometry* (SoCG'19 special issue), 2020.
5. Haitao Wang*, **Jie Xue***, Near-optimal algorithms for shortest paths in weighted unit disk graphs. In *Discrete & Computational Geometry* (SoCG'19 special issue), 2020.
6. Timothy Chan*, Rahul Saladi*, **Jie Xue***, Range closest-pair search in higher dimensions. In *Computational Geometry: Theory and Applications* (WADS'19 special issue), 2020.
7. **Jie Xue**, Yuan Li, Ravi Janardan, Approximate range closest-pair queries. In *Computational Geometry: Theory and Applications* (CCCG'18 special issue), 2020.
8. Yuan Li, Ahmed Eldawy, **Jie Xue**, Nadezda Weber, Mohamed F. Mokbel, Ravi Janardan, Scalable computational geometry in MapReduce. In *VLDB Journal*, 2019.
9. **Jie Xue**, Yuan Li, Ravi Janardan, On the expected diameter, width, and complexity of a stochastic convex-hull. In *Computational Geometry: Theory and Applications*, 2019.
10. Akash Agrawal, Yuan Li, **Jie Xue**, Ravi Janardan, The most-likely skyline problem for stochastic points. In *Computational Geometry: Theory and Applications* (CCCG'17 special issue), 2019.
11. **Jie Xue**, Yuan Li, Ravi Janardan, On the separability of stochastic geometric objects, with applications. In *Computational Geometry: Theory and Applications*, 2018.
12. Yuan Li, **Jie Xue**, Akash Agrawal, Ravi Janardan, On the arrangement of stochastic lines in $\mathbb{R}^2$. In *Journal of Discrete Algorithms*, 2017.

Conference publications

1. Akanksha Agrawal*, Tanmay Inamdar*, Saket Saurabh*, **Jie Xue***, Clustering what matters: optimal approximation for clustering with outliers. Accepted to the *37th AAAI conference on Artificial Intelligence* (AAAI), 2023.
2. Daniel Lokshtanov*, Fahad Panolan*, Saket Saurabh*, **Jie Xue***, Meirav Zehavi*, A framework for approximation schemes on disk graphs. In the *34th ACM-SIAM Symposium on Discrete Algorithms* (SODA), 2023.
3. Chinmay Sonar*, Subhash Suri*, **Jie Xue***, Multiwinner elections under minimax Chamberlin-Courant rule in Euclidean space. In the *31th International Joint Conference on Artificial Intelligence* (IJCAI), 2022.
4. Sayan Bandyapadhyay*, William Lochet*, Daniel Lokshtanov*, Saket Saurabh*, **Jie Xue***, True contraction decomposition and almost ETH-tight bipartization for unit-disk graphs. In the *38th International Symposium on Computational Geometry* (SoCG), 2022.
5. Neeraj Kummar*, Daniel Lokshtanov*, Saket Saurabh*, Subhash Suri*, **Jie Xue***, Point separation and obstacle removal by finding and hitting odd cycles. In the *38th International Symposium on Computational Geometry* (SoCG), 2022. Invited to SoCG special issue.
6. Sayan Bandyapadhyay*, William Lochet*, Daniel Lokshtanov*, Saket Saurabh*, **Jie Xue***, Subexponential parameterized algorithms for cut and cycle hitting problems on H-minor-free graphs. In the *33th ACM-SIAM Symposium on Discrete Algorithms* (SODA), 2022.
7. Timothy M. Chan*, Qizheng He*, Subhash Suri*, **Jie Xue***, Dynamic geometric set cover, revisited. In the *33th ACM-SIAM Symposium on Discrete Algorithms* (SODA), 2022.
8. Daniel Lokshtanov*, Fahad Panolan*, Saket Saurabh*, **Jie Xue***, Meirav Zehavi*, Subexponential parameterized algorithms on disk graphs. In the *33th ACM-SIAM Symposium on Discrete Algorithms* (SODA), 2022.
9. Chinmay Sonar*, Subhash Suri*, **Jie Xue***, Multiwinner elections under minimax Chamberlin-Courant rule in Euclidean space. In the *31th International Joint Conference on Artificial Intelligence* (IJCAI), 2022.
10. Daniel Lokshtanov*, Saket Saurabh*, Subhash Suri*, **Jie Xue***, An ETH-tight algorithm for multi-team formation. In the *41st Conference on Foundations of Software Technology and Theoretical Computer Science* (FSTTCS), 2021.

11. Daniel Lokshtanov*, Subhash Suri*, **Jie Xue***, Efficient algorithms for least square piecewise polynomial regression. In the *29th Annual European Symposium on Algorithms* (ESA), 2021.
12. Zhenyu Pan, **Jie Xue**, Tingjian Ge, Intuitive searching: an approach to search the decision policy of a Blackjack agent. In the *6th International Congress on Information and Communication Technology* (ICICT), 2021.
13. Pankaj K. Agarwal*, Hsien-Chih Chang*, Subhash Suri*, Allen Xiao*, **Jie Xue***, Dynamic geometric set cover and hitting set. In the *36th International Symposium on Computational Geometry* (SoCG), 2020. Invited to SoCG special issue.
14. Daniel Lokshtanov*, Chinmay Sonar*, Subhash Suri*, **Jie Xue***, Fair covering of points by balls. In the *32th Canadian Conference on Computational Geometry* (CCCG), 2020.
15. **Jie Xue**, Yuan Li, Rahul Saladi, Ravi Janardan, Searching for the closest-pair in a query translate. In the *35th International Symposium on Computational Geometry* (SoCG), 2019. Invited to SoCG special issue.
16. Haitao Wang*, **Jie Xue***, Near-optimal algorithms for shortest paths in weighted unit disk graphs. In the *35th International Symposium on Computational Geometry* (SoCG), 2019. Invited to SoCG special issue.
17. **Jie Xue**, Colored range closest-pair problem under general distance functions. In the *30th ACM-SIAM Symposium on Discrete Algorithms* (SODA), 2019.
18. Haitao Wang*, **Jie Xue***, Improved algorithms for the bichromatic 2-center problem for pairs of points. In the *16th Algorithms and Data Structures Symposium* (WADS), 2019.
19. Timothy Chan*, Rahul Saladi*, **Jie Xue***, Range closest-pair search in higher dimensions. In the *16th Algorithms and Data Structures Symposium* (WADS), 2019. Invited to WADS special issue.
20. **Jie Xue**, Yuan Li, Rahul Saladi, Ravi Janardan, New bounds for range closest-pair problems. In the *34th International Symposium on Computational Geometry* (SoCG), 2018.
21. **Jie Xue**, Yuan Li, Ravi Janardan, Approximate range closest-pair queries. In the *30th Canadian Conference on Computational Geometry* (CCCG), 2018. Invited to CCCG special issue.
22. Zhenyu Pan, **Jie Xue**, Yang Gao, Honghao Wang, Guanling Chen, Revealing the relations between learning behaviors and examination scores via a prediction system. In the *2nd International Conference on Computer Science and Artificial Intelligence* (CSAI), 2018.
23. **Jie Xue**, Yuan Li, Ravi Janardan, On the expected diameter, width, and complexity of a stochastic convex-hull. In the *15th Algorithms and Data Structures Symposium* (WADS), 2017.
24. **Jie Xue**, Yuan Li, Stochastic closest-pair problem and most-likely nearest-neighbor search in tree spaces. In the *15th Algorithms and Data Structures Symposium* (WADS), 2017.
25. Akash Agrawal, Yuan Li, **Jie Xue**, Ravi Janardan, The most-likely skyline problem for stochastic points. In the *29th Canadian Conference on Computational Geometry* (CCCG), 2017. Invited to CCCG special issue.
26. **Jie Xue**, Yuan Li, Ravi Janardan, On the separability of stochastic geometric objects, with applications. In the *32nd International Symposium on Computational Geometry* (SoCG), 2016.

Manuscripts and other articles

1. **Jie Xue**, Yuan Li, On dominance-free samples of a (colored) stochastic dataset. In progress.
2. **Jie Xue**, Yuan Li, Rahul Saladi, Ravi Janardan, Searching for the closest-pair in a convex polygonal translate. In *Young Researcher Forum*, CG Week 2018.

Talks and Professional activities

- Presentation at SODA 2023:
  A framework for approximation schemes on disk graphs.
- Talk at Nanjing University (Aug. 2022):
  Vertex deletion on disk graphs.
- Presentation at SoCG 2022:
  Point separation and obstacle removal by finding and hitting odd cycles.
- Presentation at SODA 2022:
  1. Subexponential parameterized algorithms for cut and cycle hitting problems on H-minor-free graphs.
  2. Subexponential parameterized algorithms on disk graphs.
- Talk at NYU Tandon (Online, Nov. 2021):
  Efficient algorithms and data structures for geometric computing.
- Presentation at ESA 2021:
  Efficient algorithms for least square piecewise polynomial regression.
- Talk at Nanjing University (Online, Dec. 2020) and NYU Shanghai (Online, March 2021):
  Efficient algorithms and data structures for geometric computing.
- Presentation at SoCG 2020:
  Dynamic geometric set cover and hitting set.
- Presentation at SoCG 2019:
  1. Searching for the closest-pair in a query translate.
  2. Near-optimal algorithms for shortest paths in weighted unit disk graphs.
- Presentation at SODA 2019:
  Colored range closest-pair problem under general distance functions.
- Presentation at FWCG 2018:
  Colored range closest-pair problem under general distance functions.
- Presentation at CCCG 2018:
  Approximate closest-pair search.
- Talk at Nanjing University (Aug. 2018):
  Range closest-pair search.
- Presentation at SoCG 2018:
  New bounds for range closest-pair problems.
- Presentation at Young Researcher Forum in CG Week 2018:
  Searching for the closest-pair in a convex polygonal translate.
- Presentation at WADS 2017:
  Stochastic closest-pair problem and most-likely nearest-neighbor search in tree spaces.
  On the expected diameter, width, and complexity of a stochastic convex-hull.
- Presentation at SoCG 2016:
  On the separability of stochastic geometric objects, with applications.
- PC member for conferences:
  WADS 2023, FAW 2022, CG Week 2021 YRF
- Reviewer for conferences:
  SoCG 2023, STOC 2023, SODA 2023, SoCG 2022, SODA 2022, ICALP 2022, ESA 2022, COCOA 2021, FSTTCS 2021, ISAAC 2021, FOCS 2021, ICALP 2021, SODA 2021, SoCG 2020, SWAT 2020, ISAAC 2020, FAW 2019, ISAAC 2018, MFCS 2017, WADS 2017, SoCG 2017
- Reviewer for journals:
  Discrete & Computational Geometry, Journal of Computational Geometry, Algorithmica, Computational Geometry: Theory and Applications, Journal of Combinatorial Optimization, International Journal of Computational Geometry and Applications

Awards

June 2019	SoCG 2019 Travel Award
Nov 2018	SIAM Travel Award
June 2018	SoCG 2018 Travel Award
2018-2019	University of Minnesota, Doctoral Dissertation Fellowship (DDF)
June 2016	SoCG 2016 Travel Award
June 2016	CS&E Department Travel Award
June 2013	Gold Medal in ACM/ICPC China Invitational Contest (Hangzhou)

Mathematical background

General:	analysis, combinatorics, probability theory, linear algebra
Algebra:	abstract algebra, commutative algebra, homological algebra
Topology:	general topology, homology/cohomology theory, homotopy theory
Others:	algebraic geometry, category theory, matrix theory

Languages

Chinese:	Mother tongue
English:	Fluent

Hobbies

Literature | Poetry | Calligraphy | I Ching | Table-tennis

References available upon request.