SAMPSON WONG

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CITIZENSHIP: AUSTRALIAN
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Employment

- Postdoctoral Researcher, University of Copenhagen   2023 - 2024
- Australian Deputy Leader, International Mathematical Olympiad   2019 - 2022
- Algorithmic Trader, Optiver   2015 - 2017

Education

- PhD, University of Sydney, supervised by Joachim Gudmundsson   2020 - 2023
- MPhil, University of Sydney, supervised by Joachim Gudmundsson   2018 - 2019
- BSc Honours, University of Sydney, supervised by Stephan Tillman   2011 - 2014

Awards

- Marie Curie Postdoctoral Fellowship   2023
- Google PhD Fellowship   2021
- Australian Research Training Program Scholarship   2018

Publications

Conference papers

1. Kevin Buchin, Maike Buchin, Joachim Gudmundsson and Sampson Wong. *"Bicriteria approximation for minimum dilation graph augmentation"*. Proceedings of the European Symposium on Algorithms, ESA 2024.
2. Kevin Buchin, Maike Buchin, Joachim Gudmundsson, Aleksandr Popov and Sampson Wong. *"Map-Matching Queries Under Fréchet Distance on Low-Density Spanners"*. Proceedings of the International Symposium on Computational Geometry, SoCG 2024.
3. Joachim Gudmundsson, Martin P. Seybold, Sampson Wong. *"Approximating Multiplicatively Weighted Voronoi Diagrams: Efficient Construction with Linear Size"*. Proceedings of the International Symposium on Computational Geometry, SoCG 2024.
4. Kevin Buchin, Maike Buchin, Joachim Gudmundsson, Lukas Plätz, Lea Thiel and Sampson Wong. *"L-Budget Clustering of Curves"*. Proceedings of the Scandanavian Symposium on Algorithm Theory, SWAT 2024.

5. Joachim Gudmundsson, Zijin Huang, Sampson Wong. *"Approximating the λ-low-density value"*. Proceedings of the International Computing and Combinatorics Conference, COCOON 2023.

6. Joachim Gudmundsson, Zijin Huang, André van Renssen, Sampson Wong. *"Computing a Subtrajectory Cluster from c-Packed Trajectories"*. Proceedings of the International Symposium on Algorithms and Computation, ISAAC 2023.

7. Kevin Buchin, Joachim Gudmundsson, Antonia Kalb, Aleksandr Popov, Carolin Rehs, André van Renssen, Sampson Wong. *"Oriented Spanners"*. Proceedings of the European Symposium on Algorithms, ESA 2023.

8. Andrè van Renssen, Yuan Sha, Yucheng Sun, Sampson Wong. *"The Tight Spanning Ratio of the Rectangle Delaunay Triangulation"*. Proceedings of the European Symposium on Algorithms, ESA 2023.

9. Joachim Gudmundsson, Martin P. Seybold, Sampson Wong. *"Map matching queries on realistic input graphs under the Fréchet distance"*. Proceedings of the ACM-SIAM Symposium on Discrete Algorithms, SODA 2023. See journal version, 18.

10. Kevin Buchin, André Nusser, Sampson Wong. *"Computing continuous dynamic time warping of time series in polynomial time"*. Proceedings of the International Symposium on Computational Geometry, SoCG 2022.

11. Joachim Gudmundsson, Sampson Wong. *"Cubic upper and lower bounds for subtrajectory clustering under the continuous Fréchet distance"*. Proceedings of the ACM-SIAM Symposium on Discrete Algorithms, SODA 2022.

12. Joachim Gudmundsson, Mees van de Kerkhof, André van Renssen, Frank Staals, Lionov Wiratma, Sampson Wong. *"Covering a set of line segments with a few squares"*. Proceedings of the International Conference on Algorithms and Complexity, CIAC 2021. See journal version, 20.

13. Joachim Gudmundsson, Sampson Wong. *"Improving the dilation of metric graphs by adding edges"*. Proceedings of the ACM-SIAM Symposium on Discrete Algorithms, SODA 2021. See journal version, 21.

14. Joachim Gudmundsson, Yuan Sha, Sampson Wong. *"Approximating the packedness of polygonal curves"*. Proceedings of the International Symposium on Algorithms and Computation, ISAAC 2020. See journal version, 19.

15. Milutin Brankovic, Kevin Buchin, Koen Klaren, André Nusser, Aleksandr Popov, Sampson Wong. *"(k,ℓ)-Medians clustering of trajectories using continuous dynamic time warping"*. Proceedings of the International Conference on Advances in Geographic Information Systems, SIGPSPATIAL 2020.

16. Joachim Gudmundsson, André van Renssen, Zeinab Saedi, Sampson Wong. *"Fréchet distance queries in trajectory data"*. Proceedings of the Iranian Conference on Computational Geometry, ICCG 2020. See journal version, 22.

17. Joachim Gudmundsson, Sampson Wong. *"Computing the yolk in spatial voting games without computing median lines"*. Proceedings of the AAAI Conference on Artificial Intelligence, AAAI 2019.

Journal papers

18. Joachim Gudmundsson, Martin P. Seybold, Sampson Wong. *"Map matching queries on realistic input graphs under the Fréchet distance"*. Transactions on Algorithms, 2024. See conference version, 9.

19. Joachim Gudmundsson, Yuan Sha, Sampson Wong. *"Approximating the packedness of polygonal curves"*. Computational Geometry, 2023. See conference version, 14.

20. Joachim Gudmundsson, Mees van de Kerkhof, André van Renssen, Frank Staals, Lionov Wiratma, Sampson Wong. *"Covering a set of line segments with a few squares"*. Theoretical Computer Science, 2022. See conference version, 12.

21. Joachim Gudmundsson, Sampson Wong. *"Improving the dilation of metric graphs by adding edges"*. Transactions on Algorithms, 2022. See conference version, 13.

22. Joachim Gudmundsson, André van Renssen, Zeinab Saedi, Sampson Wong. *"Fréchet distance queries in trajectory data"*. Algorithmica, 2021. See conference version, 16.

23. Stephan Tillmann, Sampson Wong. *"An algorithm for the Euclidean cell decomposition of a cusped strictly convex projective surface"*. Journal of Computational Geometry, 2016.

Invited Presentations

Conference presentations

- SODA 2023 (Jan 22-25, 2023)
- SoCG 2022 (June 7-10, 2022)
- SODA 2022 (Jan 9-12, 2022)
- CIAC 2021 (May 10-12, 2021)
- SODA 2021 (Jan 10-13, 2021)
- AAAI 2019 (Jan 27-31, 2019)

Invited seminar talks during research visits

- University of Copenhagen (Oct 26, 2022)
- TU Eindhoven (June 27, 2022)
- Melbourne University (Dec 4, 2020)
- TU Eindhoven (Mar 3, 2020)

Service

PC Member

- ISAAC (2024)

Reviewer for conferences

- SODA (2025, 2023, 2022)
- SoCG (2024, 2023, 2022, 2021, 2019)
- ICALP (2024)
- ESA (2023, 2022, 2020)
- ISAAC (2023, 2022)

Reviewer for journals

- Algorithmica (Springer)
- Discrete and Computational Geometry (Springer)
- Computational Geometry (Elsevier)
- Journal of Computational Geometry (Open access)
- Computing in Geometry and Topology (Open access)