

# Selected Publications of Hsueh-I Lu

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## Selected Journal Publications

1. Yung-Chung Chiu and Hsueh-I Lu, Blazing a trail via matrix multiplications: A faster algorithm for non-shortest induced paths, *Information and Computation*, 301:105227.1–105227.12, 2024. [PDF](#)
2. Hou-Teng Cheong and Hsueh-I Lu, Finding a Shortest Even Hole in Polynomial Time, *Journal of Graph Theory*, 99(3):425–434, 2022. [PDF](#)
3. Hung-Chun Liang and Hsueh-I Lu, Minimum Cuts and Shortest Cycles in Directed Planar Graphs via Noncrossing Shortest Paths, *SIAM Journal on Discrete Mathematics*, 31(1):454–476, 2017. [PDF](#)
4. Hsien-Chih Chang and Hsueh-I Lu, A Faster Algorithm to Recognize Even-hole-free Graphs, *Journal of Combinatorial Theory, Series B*, 113:141–161, 2015. [PDF](#)
5. Hsueh-I Lu, Linear-Time Compression of Bounded-Genus Graphs into Information-Theoretically Optimal Number of Bits, *SIAM Journal on Computing*, 43(2):477–496, 2014. [PDF](#)
6. Cheng-Wei Lee and Hsueh-I Lu, Replacement Paths via Row Minima of Concise Matrices, *SIAM Journal on Discrete Mathematics*, 28(1):206–225, 2014. [PDF](#)
7. Hsien-Chih Chang and Hsueh-I Lu, Computing the Girth of a Planar Graph in Linear Time, *SIAM Journal on Computing* 42(3):1077–1094, 2013. [PDF](#)
8. Hsueh-I Lu, Improved Compact Routing Tables for Planar Networks via Orderly Spanning Trees, *SIAM Journal on Discrete Mathematics* 23(4):2079–2092, 2010. [PDF](#)
9. Chia-Chi Yeh and Hsueh-I Lu, Balanced Parentheses Strike Back, *ACM Transactions on Algorithms*, 4(3):28.1–28.13, 2008. [PDF](#)
10. Yi-Ting Chiang, Ching-Chi Lin, and Hsueh-I Lu, Orderly Spanning Trees with Applications, *SIAM Journal on Computing*, 34(4):924–945, 2005. [PDF](#)
11. Kai-min Chung and Hsueh-I Lu, An Optimal Algorithm for the Maximum-Density Segment Problem, *SIAM Journal on Computing* 34(2):373–387, 2004. [PDF](#)
12. Ching-Chi Lin, Hsueh-I Lu, and I-Fan Sun, Improved Compact Visibility Representation of Planar Graph via Schnyder’s Realizer, *SIAM Journal on Discrete Math*, 18(1):19–29, 2004. [PDF](#)
13. Chien-Chih Liao, Hsueh-I Lu, and Hsu-Chun Yen, Compact Floor-Planning via Orderly Spanning Trees, *Journal of Algorithms*, 48(2):441–451, 2003. [PDF](#)
14. Wen-Ben Jone, Jinn-Shyan Wang, Hsueh-I Lu, I. P. Hsu, and J.-Y. Chen, Design Theory and Implementation for Low-Power Segmented Bus Systems, *ACM Transactions on Design Automation of Electronic Systems*, 8(1):38–54, 2003. [PDF](#)
15. Xin He, Ming-Yang Kao, and Hsueh-I Lu, A Fast General Methodology for Information-Theoretically Optimal Encodings of Graphs, *SIAM Journal on Computing*, 30(3):838–846, 2000. [PDF](#)

16. Xin He, Ming-Yang Kao, and Hsueh-I Lu, Linear-Time Succinct Encodings of Planar Graphs via Canonical Orderings, *SIAM Journal on Discrete Math*, 12(3):317–325, 1999. [PDF](#)
17. J.-Y. Chen, Wen-Ben Jone, Jinn-Shyan Wang, Hsueh-I Lu, and Tien-Fu Chen, Segmented Bus Design for Low-Power Systems, *IEEE Transactions on VLSI Systems*, 7(1):25–29, 1999. [PDF](#)
18. Hsueh-I Lu and R. Ravi, Approximating Maximum-Leaf Spanning Trees in Almost Linear Time, *Journal of Algorithms*, 29(1):132–141, 1998. [PDF](#)

## Selected Conference Publications

1. Kai-Yuan Lai, Hsueh-I Lu, and Mikkel Thorup, Three-in-a-Tree in Near Linear Time, in *Proceedings of the 52nd Annual ACM Symposium on the Theory of Computing (STOC 2020)*, Chicago, Illinois, USA, June 22–26, 2020, pages 1279–1292. [PDF](#)
2. Hsien-Chih Chang and Hsueh-I Lu, A Faster Algorithm to Recognize Even-hole-free Graphs, in *Proceedings of the 23rd Annual ACM-SIAM Symposium on Discrete Algorithms (SODA 2012)*, Kyoto, Japan, January 17–19, 2012, pages 1286–1297, 2012. [PDF](#)
3. Hsueh-I Lu, Linear-Time Compression of Bounded-Genus Graphs into Information-Theoretically Optimal Number of Bits, in *Proceedings of the 13th Annual ACM-SIAM Symposium on Discrete Algorithms (SODA 2002)*, January 6–8, 2002, San Francisco, CA, USA, pages 223–224, 2002. [PDF](#)
4. Yi-Ting Chiang, Ching-Chi Lin, and Hsueh-I Lu, Orderly Spanning Trees with Applications to Graph Encoding and Graph Drawing, in *Proceedings of the 12th Annual ACM-SIAM Symposium on Discrete Algorithms (SODA 2001)*, Washington D.C., USA, January 7–9, 2001, pages 506–515, 2001. [PDF](#)
5. Richie Chih-Nan Chuang, Ashim Garg, Xin He, Ming-Yang Kao, and Hsueh-I Lu, Compact Encodings of Planar Graphs via Canonical Orderings and Multiple Parentheses, in *Proceedings of the 25th International Colloquium on Automata, Languages and Programming (ICALP 1998)*, Aalborg, Denmark, July 13–17, 1998, LNCS 1443, pages 118–129, 1998. [PDF](#)
6. Philip N. Klein and Hsueh-I Lu, Efficient Approximation Algorithms for Semidefinite Programs Arising from MAX CUT and COLORING, in *Proceedings of the 28th Annual ACM Symposium on the Theory of Computing (STOC 1996)*, Philadelphia, Pennsylvania, USA, May 22–24, 1996, pages 338–347, 1996. [PDF](#)