

Pat Morin

School of Computer Science
Carleton University
1125 Colonel By Drive
Ottawa Ontario
CANADA K1S 5B6

Tel: (613)520-2600x4353
Fax: (514)520-4334
Email: morin@cs.carleton.ca
Web: <http://cg.scs.carleton.ca/~morin/>
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Education

Jan. 1998–Jan. 2001	PhD (Computer Science) from Carleton University
Sep. 1996–Jan. 1998	M.C.S. degree from Carleton University
Sep. 1991–May 1996	B.C.S. degree (highest honours) from Carleton University

Academic Awards

June 2001	Best Paper Award — SIROCCO 2001 [83]	
Jan. 2001–Dec. 2001	NSERC Postdoctoral Fellowship	\$35 000/yr
May 2001	Carleton University Senate Medal	
May 1999–Apr. 2001	NSERC PGS-B Scholarship	\$19 000/yr
May 1997–Apr. 1999	NSERC PGS-A Scholarship	\$16 000/yr

Research Grants

2018–2022	NSERC	Discovery Grant	5×\$48 000
2017–2018	eCampusOntario	Open Content Funding	\$97 390
2013–2017	NSERC	Discovery Grant	5×\$36 000
2012–2013	SSHRC	Partnership Dev	\$21 000
2012–2013	NSERC	ENGAGE	\$25 000
2009	Carleton University	Research Award	\$15 000
2008–2010	NSERC	Discovery Accelerator	3×\$40 000
2008–2012	NSERC	Discovery Grant	5×\$26 000
2008	University of Sydney	Research Fellowship	\$15 000
2008	National ICT Australia	Collaboration Grant	\$7 000
2008	Ontario Innovation Trust	Matching Program	\$24 145
2008	Canada Foundation for Innovation	New Opportunities Fund	\$24 145
2007	Ontario Government	Early Researcher Award	\$100 000
2007	Carleton University	Carty Fellowship	\$50 000
2006	Belgian FNRS	Collaboration Grant	€5 000
2003–2007	NSERC	Discovery Grant	5×\$21 000
2004	Ontario Innovation Trust	Matching Program	\$83 227
2004	Canada Foundation for Innovation	New Opportunities Fund	\$83 227
2002	Carleton University	Startup Grant	\$30 000

Relevant Work Experience

Professor	Jul. 2013– Professor of computer science	Carleton University	Ottawa, Canada
Associate Professor	Jul. 2006–Jun. 2013 Associate professor of computer science	Carleton University	Ottawa, Canada
Assistant Professor	Jan. 2002–Jun. 2006 Assistant professor of computer science	Carleton University	Ottawa, Canada
Postdoctoral Fellow	Jan. 2001–Dec. 2001 NSERC funded postdoctoral fellow	McGill University	Montréal, Canada

Current Research Interests

Graph theory and algorithms	The study of combinatorial, structural, and algorithmic problems on graphs [12, 11, 102, 4, 5, 104, 14, 106, 16, 17, 19, 20, 22, 25, 30, 105, 103]
Geometric computing	The study of algorithmic and combinatorial geometry problems motivated by application areas such as robust statistics [67, 71, 92, 141, 95, 144], geographic information systems [93, 96, 124, 150], molecular biology and polymer physics [68, 98, 99, 101, 120], manufacturing [82, 89, 57, 60], facility location [78, 84, 95, 144, 21], automated cartography [90], machine learning [77], and visualization [80, 79, 81, 119]
Data structures	The design and analysis of efficient dictionaries [9, 86, 94, 145, 27, 26] and geometric data structures [95, 144]
Online and distributed computing	The design and analysis of communication protocols and distributed algorithms [83, 85, 91, 97, 100, 96, 118, 24, 20, 17]

Professional Duties

Program Committees	ISAAC 2002, CCCG 2004, Adhoc Now 2005, AAIM 2006, ISAAC 2006, Adhoc Now 2006, CCCG 2006, SoCG 2007, Adhoc Now 2007, SWAT 2008, CCCG 2008, ISAAC 2008, CCCG 2009, EuroCG 2009, CATS 2009, CCCG 2010, CCCG 2012, COCOON 2012, ISAAC 2013, CCCG 2014, CCCG 2015, SoCG 2017, CCCG 2020, STACS 2021, WADS 2021
Organizing Committee	CCCG 2007, Workshop on Geometry and Graphs (2013, 2014, 2015, 2016, 2017, 2018), CCCG 2017
Program Chair	CCCG 2008
Review Boards	MITACS College of Reviewers (2008), Ontario Graduate Scholarship Selection Committee (2008), MRI Early Researcher Awards Adjudication Committee (2010, 2011, 2013, 2014, 2017, 2018)
Associate Editor	Journal of Computer and System Sciences
Managing Editor	Journal of Computational Geometry (also co-founder, with Joachim Gudmundsson)

Teaching and Supervision Duties

Thesis Committees

Ahmed Moustafa (M.E., F2002), Xiaofei Jia (M.C.S, W2003), Paul Boone (M.C.S, F2003), Karel Casteels (M.Math, W2004), Ebrahim Malalla (Ph.D, McGill, W2004), Aaron Lee (M.C.S, S2004), Liang Tang (M.C.S, W2005), Derek Bradley (M.C.S, W2005), James Kelly (M.C.S, S2006), Sébastien Collette (Ph.D, Université Libre de Bruxelles, F2006), Shai Mor (M.Sc, F2006), Qiasheng Shi (Ph.D, 2008, Simon Fraser University), Sadrul Chowdhury (M.C.S, University of Ottawa, W2008), Michel Paquette (Ph.D, W2010), Dana Jansens (M.C.S, W2010), Chris Hamilton (Ph.D, W2011, Dalhousie University), Bojan Djordjević (Ph.D, S2011, University of Sydney), Jeff Sember (Ph.D, S2011, University of British Columbia), Gregory Bint (MCS, F2014), Ahmad Biniaz (Ph.D, F2016), Kimberly Crosbie (MCS., W2017), Rasoul Shahsavari (Ph.D, W2019, University of New-Brunswick), Djedjiga Outioua (MCS., W2020)

Students and Postdocs

David R. Wood (Postdoc 2002–2004), Greg Aloupis (FCAR Postdoc 2005–2006), Meng He (Postdoc 2007–2008), Mohammad Farshi (Postdoc 2007–2008), Vida Dujmović (Postdoc 2008), Paz Carmi (Postdoc 2006–2008), Vida Dujmović (NSERC Postdoc 2004–2005, 2008–2009), Yihui Tang (Ph.D, 2008), Stefanie Wuhler (M.C.S., 2006), Harish Gopala (M.C.S., 2004), John Howat (MCS, 2009), John Howat (PhD, 2012), Dan Chen (PhD, 2013), Zhamila Abdranova (MCS, 2013), Daniel Minor (MCS, 2015), Andre van Renssen (PhD, 2014), Sander Verdonschot (PhD, 2015), Tommy Reddad (MCS, 2015), Lucas Rioux-Maldague (MCS 2015), Luis Barba (PhD, 2016), Cory Fraser (MCS, 2016), Alexis Beingessner (MCS, 2016), Luis Fernando Schulz Xavier de Silveira (PhD 2020), Céline Yelle (MCS 2020), Hugo Akitaya (Postdoc, 2019–), Saeed Mehrabi (Postdoc, 2018–), Mehrnoosh Javarsineh (PhD, 2019–), Saman Bazarghani (PhD, 2019–)

Honours Projects

Michael Hodge (Diameter Finding Algorithms, W2002), Jake Denley (Generation of Random Scenery, W2004), Darcy Dunne (A Fast Algorithm for Finding the Minimum Circular Half-Covering of a 2D Point Set), Tair Bilyalov (Random 3D Terrain in Computer Games, W2005), Jeremy Gribben (Procedural Generation of Random 3D Vehicles, W2005), Christopher Johnson (Randomized Scenery in 3D Gaming, W2005), Dmitry Karasik (IOUs in BitTorrent, W2005), Vladimir Bradateanu (Dynamically Generated Random Terrain and Trees, S2005), Jamie Suomela (Random Generation of Billboard Advertising for Use in Racing Games, S2005), Gi Wu (BitTorrent IOU Extensions, S2005), Mykola Konyk (Polyhedral Surface Reconstruction, W2006), Richard Poulin (Dynamic Workflow — Graph Drawing, S2007), Irwin Zaid (Graph Hierarchies which Approximate the Complete Euclidean Graph, F2007), Shayan Negari (Application Sharing Over the Public Internet, F2007), Rajinder Wasson (A Mediawiki Sports League Extension, W2008), Daniel Minor (Cuckoo Hashing in Python, W2008), Yini He (Fast Searching in the HTML DOM, W2008), Paul Cumming (MediaWiki 2.0, W2008), Vlad Rubinov (Fast HDR, F2009), Bryan Waite (Open Source decompression algorithms, W2010), Edward Duong (Real-time HDR, W2010), Calvin Wiebe (Halia: A JavaScript DOM Querying Algorithm, F2010), Nima Hoda (Visibility-Monotonic Polygon Deflation, W2013), Troy Hildebrandt (Robust Constructive Solid Geometry, W2013), Christian Delahouse (Data Structures for Approximate String Searching, W2015) Joel Scarfone (F2017) Basim Ramadhan (W2018) Omar Ben Ismail (W2018) William Dullemond (F2018) Noah Steinberg (W2019)

Summer Undergraduates Christian Leger (Relations Between Binary and Ternary Trees, S2005), Christian Muise (Data Structures for the HTML DOM, S2007), Irwin Zaid (Hierarchical Spanners, S2007), John Howat (Property-Rich Succinct Data Structures, S2007), James Mendek (Distribution-Sensitive Point Location, S2008), Shane Smith (Simple Compiler Compiler, S2010), Nima Hoda (Basic Data Structures, S2011), Nima Hoda (Polygon Reconfiguration, S2012), Troy Hildebrand (3DCSS in Chromium, S2013), Jennifer Hood (Graph Drawing, S2015), Gahen Thanabalasingam (Data Structures, S2017), Sean Hodges (Data Structures, S2017), Martin Lunn (Data Structures, S2017)

Committees Lab Committee (2002, 2003, 2004)
Hiring Committee (2003, 2004, 2005, 2006, 2007, 2014, 2020)
Curriculum Committee (2003)
Departmental Promotions and Tenure Committee (2003, 2007, 2014, 2020 (Chair))
Faculty Promotions and Tenure Committee (2020)
RAA Evaluation Committee (2013, 2014, 2016)
Development Grant Review Committee (2017)
Tenure and Promotion Appeals Committee (2019, 2020)
Field Institute Activities Committee (2019, 2020)

Courses Taught COMP5408 Advanced Data Structures (W2002, F2003, F2004, W2006, W2007, W2008, F2009, W2011, W2012, W2013, W2014)
COMP4804 Algorithms II (W2003, W2004, W2005, W2006, W2010, W2017)
COMP4900/5900 Computational Molecular Biology (W2006, W2007)
COMP3804 Algorithms I (W2006)
COMP3002 Compiler Construction (W2003, W2004, W2005, W2008, F2009, W2011, F2011)
COMP2804 Discrete Structures II (F2019 \times 2, W2020)
COMP2405 Internet Application Programming (W2007, W2008)
COMP2402 Data Structures (F2010, F2011, F2012, F2013, F2014, F2016, F2018)
COMP5804 OCICS Graduate Seminar (2004, 2005, 2006, 2007, 2008)
COMP1405 Introduction to Programming (F2012, F2013, F2014)

Publications

Submitted Papers

- [1] [Vida Dujmović](#), [David Eppstein](#), Robert Hickingbotham, [Pat Morin](#), and [David R. Wood](#). Stack-number is not bounded by queue-number. Submitted to *Combinatorica* in November 2020.
- [2] [Louis Esperet](#), [Gwenaël Joret](#), and [Pat Morin](#). Sparse universal graphs for planarity. Submitted to *Combinatorial Theory* in October 2020 and rejected in December 2020.
- [3] [Prosenjit Bose](#), [Vida Dujmović](#), [Mehrnoosh Javarsineh](#), and [Pat Morin](#). Asymptotically optimal vertex ranking of planar graphs. Submitted to *Journal of Combinatorial Theory: Series B* in November 2020. Submitted to *SODA 2021* in July 2020 and rejected in October 2020.
- [4] [Vida Dujmović](#), [Louis Esperet](#), [Pat Morin](#), [Bartosz Walczak](#), and [David R. Wood](#). Clustered 3-colouring graphs of bounded degree. Submitted to *Computing, Probability & Combinatorics* in February 2020.
- [5] [Vida Dujmović](#), [Pat Morin](#), and [David R. Wood](#). Graph product structure for non-minor-closed classes. Submitted to *SODA 2020* in July 2019 and rejected in October 2019. Submitted to *Discrete & Compu-*

tational Geometry in July 2019 and rejected in January 2020. Submitted to *SoCG 2020* in December 2019 and rejected in February 2020. Submitted to *Journal of Combinatorial Theory: Series B* in April 2020 and not yet rejected.

Books

- [6] Pat Morin. *Open Data Structures (in Pseudocode)*. Web, 2014. A freely-available open content textbook.
- [7] Pat Morin. *Open Data Structures: An Introduction*. Athabasca University Press, Edmonton, 2013. Also freely available as *Open Data Structures (in Java)* at opendatastructures.org.
- [8] Pat Morin. *Open Data Structures (in C++)*. Web, 2012. A freely-available open content textbook.

Chapters in Books

- [9] Pat Morin. Hash tables. In Dinesh Mehta and Sartaj K. Sahni, editors, *Handbook of Data Structures and Applications*, chapter 9. CRC Press, 2004.

Papers Accepted in Refereed Journals

- [10] Vida Dujmović, Louis Esperet, Cyril Gavoille, Gwenaël Joret, and Pat Morin. Adjacency labelling for planar graphs (and beyond). *Journal of the ACM*. Accepted in January 2021. Preliminary version appeared at *FOCS 2020*.
- [11] Pat Morin. A fast algorithm for the product structure of planar graphs. *Algorithmica*. Accepted, pending minor revisions, in December 2020.
- [12] Vida Dujmović, Pat Morin, and Céline Yelle. Two results on layered pathwidth and linear layouts. *Journal of Graph Algorithms and Applications*, 25(1):43–57, 2021.
- [13] Vida Dujmović, Gwenaël Joret, Piotr Micek, Pat Morin, Torsten Ueckerdt, and David R. Wood. Planar graphs have bounded queue-number. *Journal of the ACM*, 67(4):22:1–22:38, 2020. Preliminary version appeared at *FOCS 2019*.
- [14] Vida Dujmović, David Eppstein, Gwenaël Joret, Pat Morin, and David R. Wood. Minor-closed graph classes with bounded layered pathwidth. *SIAM Journal on Discrete Mathematics*. Accepted, pending minor revisions, in September 2019.
- [15] Vida Dujmović, Fabrizio Frati, Daniel Gonçalves, Pat Morin, and Günter Rote. Every collinear set in a planar graph is free. *Discrete & Computational Geometry*, 2020. Accepted, pending minor revisions, in May 2019. Preliminary version appeared at *SODA 2019*.
- [16] Boris Aronov, Vida Dujmović, Pat Morin, Aurélien Ooms, and Luís Fernando Shulz Xavier da Silveira. More Turán-type theorems for triangles in convex point sets. *Electronic Journal of Combinatorics*, 26(1), 2019. P1.8 (26 pages).
- [17] Luc Devroye, Vida Dujmović, Alan Frieze, Abbas Mehrabian, Pat Morin, and Bruce Reed. Notes on growing a tree in a graph. *Random Structures & Algorithms*, 55:290–312, 2019.
- [18] Vida Dujmović, Gwenaël Joret, Pat Morin, Sergey Norin, and David R. Wood. Corrigendum to “Orthogonal tree decompositions of graphs”. *SIAM Journal on Discrete Mathematics*, 32(4):3003–3004, 2018.
- [19] Vida Dujmović, Gwenaël Joret, Pat Morin, Sergey Norin, and David R. Wood. Orthogonal tree decompositions of graphs. *SIAM Journal on Discrete Mathematics*, 32(2):839–863, 2018.
- [20] Luc Devroye and Pat Morin. A note on interference in random networks. *Computational Geometry: Theory and Applications*, 67:2–10, 2018. Preliminary version appeared at *CCCG 2012*.

- [21] Ahmad Biniiaz, Prosenjit Bose, David Eppstein, Anil Maheshwari, Pat Morin, and Michiel Smid. Spanning trees in multipartite geometric graphs. *Algorithmica*, 80(11):3177–3191, November 2018.
- [22] Vida Dujmović, Pat Morin, and David R. Wood. Layered separators in minor-closed graph classes with applications. *Journal of Combinatorial Theory, Series B*, 127:111–147, 2017. Preliminary version appeared at FOCS 2013.
- [23] Pat Morin, Wolfgang Mulzer, and Tommy Reddad. Encoding arguments. *ACM Computing Surveys*, 50(3):46:1–36, 2017.
- [24] Pat Morin and Sander Verdonschot. On the average number of edges in theta graphs. *Online Journal of Analytic Combinatorics*. Accepted in July 2016. Preliminary version appeared at *ANALCO 2014*.
- [25] Prosenjit Bose, Vida Dujmović, Pat Morin, and Lucas Rioux-Maldague. New bounds for facial non-repetitive colouring. *Graphs and Combinatorics*, 33(4):817–832, 2017.
- [26] Paul-Virak Khuong and Pat Morin. Array layouts for comparison-based searching. *ACM Journal of Experimental Algorithmics*, 22(1), 2017. Article No. 1.3 (39 pages).
- [27] Prosenjit Bose, Rolf Fagerberg, John Howat, and Pat Morin. Biased predecessor search. *Algorithmica*, 76(4):1097–1105, 2016. Preliminary version appeared at *LATIN 2014*.
- [28] Prosenjit Bose, Jean-Lou De Carufel, Pat Morin, André van Renssen, and Sander Verdonschot. Towards tight bounds on theta-graphs: More is not always better. *Theoretical Computer Science*, 616:70–93, 2016.
- [29] Prosenjit Bose, Pat Morin, and André van Renssen. The price of order. *International Journal of Computational Geometry and Applications*, 26(3):135–149, 2016. Preliminary version appeared at *ISAAC 2014*.
- [30] Greg Aloupis, Luis Barba, Paz Carmi, Vida Dujmović, Fabrizio Frati, and Pat Morin. Compatible connectivity augmentation of planar disconnected graphs. *Discrete & Computational Geometry*, 54(2):459–480, 2015. Preliminary version appeared at *SODA 2015*.
- [31] Prosenjit Bose, Vida Dujmović, Nima Hoda, and Pat Morin. Visibility-monotonic polygon deflation. *Contributions to Discrete Mathematics*, 10(1):1–21, 2015. Preliminary version appears in *Proceedings of CCCG 2012*.
- [32] Vida Dujmović and Pat Morin. On obstacle numbers. *Electronic Journal of Combinatorics*, 22(3), 2015. P3.1 (7 pages).
- [33] Vida Dujmović, Pat Morin, and Michiel Smid. Average stretch factor: How low does it go? *Discrete & Computational Geometry*, 53(2):296–326, 2015.
- [34] Prosenjit Bose, Pat Morin, André van Renssen, and Sander Verdonschot. The Θ_5 graph is a spanner. *Computational Geometry: Theory and Applications*, 48(2):108–119, 2015. Preliminary version appears in *Proceedings of the 39th International Workshop on Graph-Theoretic Concepts in Computer Science (WG 2013)*.
- [35] Vida Dujmović, Pat Morin, and Adam Sheffer. Crossings in grid drawings. *Electronic Journal of Combinatorics*, 21(1), 2014. P1.41 (18 pages).
- [36] Prosenjit Bose, Vida Dujmović, Pat Morin, and Michiel Smid. Robust geometric spanners. *SIAM Journal on Computing*, 42(4):1720–1736, 2013. Preliminary version appears in *Proceedings of the Twenty-Ninth ACM Symposium on Computational Geometry (SoCG 2013)*, ACM Press, 2013.
- [37] Dan Chen and Pat Morin. Approximating majority depth. *Computational Geometry: Theory and Applications*, 46(9):1059–1064, 2013. Special issue of selected papers from *CCCG 2012*.
- [38] Dan Chen, Pat Morin, and Uli Wagner. Absolute approximation of Tukey depth: Theory and experiments. *Computational Geometry: Theory and Applications*, 46(5):566–573, 2013. Special issue on Geometric Optimization.
- [39] B. Ballinger, Nadia Benbernou, Prosenjit Bose, Mirela Damian, Erik D. Demaine, Vida Dujmović, Robin Flatland, Ferran Hurtado, John Iacono, Anna Lubiw, Pat Morin, Vera Sacristán, Diane Souvaine, and Ryuhei Uehara. Coverage with k -transmitters in the presence of obstacles. *Journal of Combinatorial Optimization*, 25(2):208–233, March 2013. Preliminary version appears in *Proceedings of the 4th Annual International Conference on Combinatorial Optimization and Applications (COCOA2010)*, Part II: 1-15, 2010.

- [40] Dan Chen, Olivier Devillers, John Iacono, Stefan Langerman, and Pat Morin. Oja centers and centers of gravity. *Computational Geometry: Theory and Applications*, 46(2):140–147, 2013. Special issue of selected papers from *CCCG 2010*.
- [41] Prosenjit Bose, Karim Douïeb, Vida Dujmović, John Howat, and Pat Morin. Fast local searches and updates in bounded universes. *Computational Geometry: Theory and Applications*, 46(2):181–189, 2013. Special issue of selected papers from *CCCG 2010*.
- [42] David Charlton, Erik D. Demaine, Martin L. Demaine, Vida Dujmović, Pat Morin, and Ryuhei Uehara. Ghost chimneys. *International Journal of Computational Geometry and Applications*, 22(3):207–214, 2012. Preliminary version appears in *Proceedings of CCCG 2010*.
- [43] Sébastien Collette, Vida Dujmović, John Iacono, Stefan Langerman, and Pat Morin. Entropy, triangulation, and point location in planar subdivisions. *ACM Transactions on Algorithms*, 8(3):29:1–29:18, 2012.
- [44] Prosenjit Bose, Karim Douïeb, and Pat Morin. Skip lifts: A probabilistic alternative to red-black trees. *Journal of Discrete Algorithms*, 14:13–20, 2012. Special issue of selected papers from the *International Workshop on Combinatorial Algorithms (IWOCA 2010)*.
- [45] Prosenjit Bose, John Howat, and Pat Morin. A distribution-sensitive dictionary with low space overhead. *Journal of Discrete Algorithms*, 10:140–145, 2012. Preliminary version appears in *Proceedings of the 16th International Workshop on Algorithms and Data Structures (WADS 2009)*, LNCS, pages 110–118. Springer, 2009.
- [46] Prosenjit Bose, Eric Chen, Meng He, Anil Maheshwari, and Pat Morin. Succinct geometric indexes supporting point location. *ACM Transactions on Algorithms*, 8(2):10:1–10:26, April 2012. Preliminary version appeared in *Proceedings of the 20th ACM-SIAM Symposium on Discrete Algorithms (SODA 2009)*, pages 635–644, 2009.
- [47] Dan Chen, Vida Dujmović, Luc Devroye, and Pat Morin. Memoryless routing in convex subdivisions: Random walks are optimal. *Computational Geometry: Theory and Applications*, 45(4):178–185, 2012. Preliminary version appears at EuroCG 2010.
- [48] Vida Dujmović, John Howat, and Pat Morin. Biased range trees. *Algorithmica*, 62(1):21–37, 2012. Preliminary version appeared in *Proceedings of the 20th ACM-SIAM Symposium on Discrete Algorithms (SODA 2009)*, pages 486–495, 2009.
- [49] Vida Dujmović, Joachim Gudmundsson, Pat Morin, and Thomas Wolle. Notes on large angle crossing graphs. *Chicago Journal of Theoretical Computer Science*, 2011. Special issue of selected papers from *Computing: The Australasian Theory Symposium (CATS 2010)*.
- [50] Kevin Buchin, Maarten Löffler, Wolfgang Mulzer, and Pat Morin. Delaunay triangulation of imprecise points simplified and extended. *Algorithmica*, 61(3):674–693, 2011. Preliminary version appears in *Proceedings of the 16th International Workshop on Algorithms and Data Structures (WADS 2009)*, LNCS. Springer, 2009.
- [51] Evangelos Kranakis, Danny Krizanc, and Pat Morin. Randomized rendez-vous with limited memory. *ACM Transactions on Algorithms*, 7(3):34:1–34:12, July 2011. Preliminary version appears in *Proceedings of the 8th Latin American Theoretical Informatics Symposium (LATIN2008)*, pages 605–616, 2008.
- [52] Prosenjit Bose, Paz Carmi, Ferran Hurtado, and Pat Morin. A generalized Winternitz theorem. *Journal of Geometry*, 100:29–35, 2011.
- [53] Joachim Gudmundsson, Pat Morin, and Michiel Smid. Algorithms for marketing-mix optimization. *Algorithmica*, 60(4), 2011.
- [54] Prosenjit Bose, Sébastien Collette, Stefan Langerman, Anil Maheshwari, Pat Morin, and Michiel Smid. Sigma-local graphs. *Journal of Discrete Algorithms*, 8:15–23, 2010.
- [55] Luc Devroye, Joachim Gudmundsson, and Pat Morin. On the expected maximum degree of Gabriel and Yao graphs. *Advances in Applied Probability*, 41(4):1123–1140, 2009.

- [56] Prosenjit Bose, Vida Dujmović, Ferran Hurtado, Stefan Langerman, Pat Morin, and David R. Wood. A polynomial bound for untangling geometric planar graphs. *Discrete & Computational Geometry*, 42(2):570–585, 2009. Preliminary version appeared at *Topological and Geometric Graph Theory (TGGT 2008)*.
- [57] Prosenjit Bose, Pat Morin, Michiel Smid, and Stefanie Wührer. Clamshell casting. *Algorithmica*, 55(4):666–702, 2009. Preliminary version appears in *Proceedings of CAD’07*.
- [58] Prosenjit Bose, Vida Dujmović, Ferran Hurtado, and Pat Morin. Connectivity-preserving transformations of binary images. *Computer Vision and Image Understanding*, 113(10):1027–1104, October 2009.
- [59] Rossen Atanassov, Prosenjit Bose, Matthieu Couture, Anil Maheshwari, Pat Morin, Michel Paquette, Michiel Smid, and Stefanie Wührer. Algorithms for optimal outlier removal. *Journal of Discrete Algorithms*, 7:239–248, 2009.
- [60] Prosenjit Bose, Pat Morin, Michiel Smid, and Stefanie Wührer. Rotationally monotone polygons. *Computational Geometry: Theory and Applications*, 42:471–483, 2009. See also [143].
- [61] Jeff Erickson, Ferran Hurtado, and Pat Morin. Centerpoint theorems for wedges. *Discrete Mathematics & Theoretical Computer Science*, 11(1):45–54, 2009.
- [62] Prosenjit Bose, Paz Carmi, Matthieu Couture, Anil Maheshwari, Pat Morin, and Michiel Smid. Spanners of complete k -partite geometric graphs. *SIAM Journal on Computing*, 38(5):1803–1820, 2009. Preliminary version appears in *Proceedings of the 8th Latin American Theoretical Informatics Symposium (LATIN2008)*, 2008.
- [63] Prosenjit Bose, Vida Dujmović, Danny Krizanc, Stefan Langerman, Pat Morin, David R. Wood, and Stefanie Wührer. A characterization of the degree sequences of 2-trees. *Journal of Graph Theory*, 58(3):191–209, 2008. Preliminary version appears in *Proceedings of ANALCO 2007*.
- [64] Prosenjit Bose, Hua Guo, Evangelos Kranakis, Anil Maheshwari, Pat Morin, Jason Morrison, Michiel Smid, and Yihui Tang. On the false-positive rate of Bloom filters. *Information Processing Letters*, 108:210–213, 2008.
- [65] Paz Carmi, Vida Dujmović, Pat Morin, and David R. Wood. Distinct distances in graph drawings. *Electronic Journal of Combinatorics*, 15(R107), August 2008.
- [66] David Bremner, Dan Chen, John Iacono, Stefan Langerman, and Pat Morin. Output-sensitive algorithms for Tukey depth and related problems. *Statistics and Computing*, 18(3):259–266, September 2008.
- [67] Pat Morin. An optimal randomized algorithm for d -variate zonoid depth. *Computational Geometry: Theory and Applications*, 39(3):229–235, 2008.
- [68] Pankaj K. Agarwal, Rolf Klein, Christian Knauer, Stefan Langerman, Pat Morin, Micha Sharir, and Michael Soss. Computing the detour and spanning ratio of paths, trees and cycles in 2d and 3d. *Discrete & Computational Geometry*, 39(1):17–37, 2008. Related results are contained in Conference Paper [120].
- [69] Erik D. Demaine, Jeff Erickson, Danny Krizanc, Henk Meijer, Pat Morin, Mark Overmars, and Sue Whitesides. Realizing partitions respecting full and partial order information. *Journal of Discrete Algorithms*, 6:51–58, 2008. Preliminary version appears in *Proceedings of the Australasian Workshop on Combinatorial Algorithms (AWOCA 2005)*, pages 105–114, 2005.
- [70] Greg Aloupis, Erik D. Demaine, Stefan Langerman, Pat Morin, Joseph O’Rourke, Ileana Streinu, and Godfried T. Toussaint. Unfolding polyhedral bands. *Computational Geometry: Theory and Applications*, 39(1):30–42, 2008. Special issue of selected papers from *The 16th Canadian Conference on Computational Geometry (CCCG 2004)*, 2004.
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- [72] Greg Aloupis, Prosenjit Bose, and Pat Morin. Reconfiguring triangulations with edge flips and point moves. *Algorithmica*, 47(4):367–378, 2007. Special issue of selected papers from the *12th International Symposium on Graph Drawing*, pages 1–11, volume 3383 of LNCS, Springer-Verlag.

- [73] Prosenjit Bose, Erik D. Demaine, Ferran Hurtado, Stefan Langerman, John Iacono, and Pat Morin. Geodesic ham-sandwich cuts. *Discrete & Computational Geometry*, 37(3):325–330, 2007. Preliminary version appears in *Proceedings of the Twentieth ACM Symposium on Computational Geometry (SoCG 2004)*, pages 1-9. ACM Press, 2004.
- [74] Prosenjit Bose, Anil Maheshwari, Pat Morin, Jason Morrison, Michiel Smid, and Jan Vahrenhold. Space-efficient geometric divide-and-conquer algorithms. *Computational Geometry: Theory and Applications*, 37(3):209–227, 2007. Preliminary version appears in *Proceedings of the 20th European Workshop on Computational Geometry (EWCG 2004)*.
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