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Expérience

2004–. . .	Professeur d'informatique Université du Québec (TÉLUQ) Titularisé en 2009 Directeur de département (2017–2023) Membre fondateur du Laboratoire sur la science des données Cercle d'excellence de l'Université du Québec (2019)
2002–2004	Chercheur régulier en affaires électroniques Conseil national de recherches du Canada (CNRC) Chef de l'équipe de recherches en santé électronique (2002–2003)
2001–2002	Professeur adjoint Acadia University
1999–2001	Entrepreneur TechElements Inc. et Ondelette.com
1998–1999	Stagiaire postdoctoral Institut de génie biomédical

Formation

1995–1998	Doctorat (Ph.D.) – *Schémas itératifs* **École Polytechnique de Montréal** et **Université de Montréal** Directeurs : Prof. Gilles Deslauriers et Serge Dubuc
1994–1995	Maîtrise – *Approximation dans les systèmes non linéaires* **University of Toronto** Directrice : Catherine Sulem
1990–1994	Baccalauréat avec mention *High Distinction* **University of Toronto**

Bourses et prix d'excellence à titre d'étudiant

— Bourse d'étude du FCAR (doctorat) et CRSNG (maîtrise et doctorat);
— Bourse *C. D. Howe Memorial* (≈50 000 $);
— Bourse Canada du CRSNG (4 000 $);
— Médaille du doyen de St.Michael's (1994);
— Bourse 3T0 (Université de Toronto).

Étudiants aux cycles supérieurs

— Pierre Marie Ntang (Ph.D., 2023);
— Gary Germeil (Ph.D., 2022);
— Tarek Khei (Ph.D., 2020);
— Xueping Dai (Ph.D., 2019);
— Erick Aokou Koffi (Ph.D., 2018);
— Badis Merdaoui (Ph.D., 2017);
— Jing Li, computer science (Ph.D., 2016);
— Samy Chambi, computer science (Ph.D., 2016);
— Hazel Webb, computer science (Ph.D., 2010).

Participation au sein d'associations professionnelles

— Association for Computing Machinery (ACM);
— National Academy of Scholars (NAS).

Prix

— Prix d'excellence de l'Université du Québec (2020) pour une réalisation en recherche et création (tous secteurs confondus)

Programme de recherche

Subventions individuelles de recherche (organismes externes)

Subvention à la découverte au CRSNG en 2017 : *Outstanding* (Excellence du chercheur), *Very Strong* (Mérite de la proposition) et *Very Strong* (Formation de personnel hautement qualifié).

— Subventions d'engagement partenarial du CRNSG (2018, 25 000$);
— Subvention d'accélération du CRSNG (2017–2024, 120 000$);
— Subvention à la découverte du CRSNG (2017–2024, 294 000$);
— Subvention à la découverte du CRSNG (2012–2017, 140 000$);
— Subvention à la découverte du CRSNG (2007–2012, 75 000$);
— Subvention à la découverte du CRSNG (2003–2007, 48 000$);
— Subvention pour l'établissement de nouveaux chercheurs du FRQNT (2006–2008, 54 249$).

Subventions de recherche en équipe

— Fond d'innovation de la FCI (2020-2024, 720 000$) avec Hafedh Mili et Kim L Lavoie (responsables)
— Subvention NovaScience pour le projet Enseigner l'intelligence artificielle (2020–2021, 140 000$) with Valéry Psyché (lead);
— Programme stratégique du RQRD sur l'intelligence artificielle (2020–2021, 45 000$) avec Isabelle Savard (responsable);
— FRQNT équipe (2018–2021, 162 000$) with Li Zhen Cheng (lead);
— Fonds des leaders de la FCI (2016–2017, 797 481$) avec N. Bélanger (responsable) et E. Filotas;
— Fondation CAA (2013–2014, 189 994$) avec E. Vallières (responsable);
— Fonds des leaders de la FCI (2008–2009, 999 618$) avec G. Paquette (responsable) et P. Valtchev;

— Fondation de l'innovation du Nouveau-Brunwick (2007–2008, 10 000$) avec O. Kaser (responsable).

Comités de lecture (liste partielle)

— ACM Conference on Information Retrieval (SIGIR) 2015, 2020;
— ACM Conference on Recommender Systems (RecSys) 2009–2014, 2017–2019;
— ACM Conference on Information and Knowledge Management (CIKM) 2012–2017;
— ACM Conference on Web Search and Data Mining (WSDM) 2013–2015;
— World Wide Web Conference (WWW) 2017, 2018;
— ACM/IEEE Joint Conference on Digital Libraries (JCDL) 2011–2017.

Organismes subventionnaires

— Au CRSNG, membre du comité d'évaluation des subventions à la découverte (EG 1507) en Sciences informatiques (4 ans, 2018–2021). En 2019–2020 et 2020–2021, co-président du comité.
— Au FRQNT,membre du comité d'évaluation 03F (informatique théorique) depuis 2007.
— Toujours au FRQNT, membre du comité d'évaluation 309 (subvention d'équipe en informatique) en 2006–2007, en 2013–2014, 2014–2015 et 2016–2017.
— Au CRSNG, membre du comité d'évaluation du programme de subventions d'outils et d'instruments de recherche dans les sciences informatiques en 2012–2013, 2013–2014 et 2014–2015.

Évaluations externes

— Évaluateur externe pour thèse de doctorat:
  — Nigel Medforth de l'Université Simon Fraser, Canada (2022) — dirigé par Robert Cameron;
  — Luca Versari de l'Université de Pise, Italie (2021) — dirigé par Roberto Grossi;
  — Kareem El Gebaly de l'Université Waterloo, Canada (2018) — dirigé par Jimmy Lin, Lukasz Golab and Ashraf Aboulnaga;
  — Mohammed Shaaban de l'Université Pierre et Marie Curie, France (2017) — dirigé par Patrick Garda;
  — Mehdi Boukhechba de l'UQAC, Canada (2016) — dirigé par Abdenour Bouzouane and Charles Gouin-Vallerand;
  — Hicham Assoudi de l'UQAM, Canada (2016) — dirigé par Hakim Lounis;
  — Khaled Dehdouh de Lyon 2, France (2015) — dirigé par Omar Boussaid;
  — Martin Leginus de l'Université Aalborg, Danemark (2015) — dirigé par Peter Dolog;
  — Ahmad Taleb de l'Université Concordia, Canada (2011) — dirigé par Todd Eavis.

— Rapporteur pour dossier d'habilitation:
Sabine Loudcher Rabaseda de l'Université Lyon 2, France (2011).
— Évaluateur externe pour dossier de promotion:
  — Jason Sawin de l'Université of St. Thomas;
  — Amer Nizar AbuAli de la Philadelphia University;
  — Ken Pu du Ontario Institute of Technology;
  — Jinan Fiaidhi de Lakehead University.

En 2020, un de deux évaluateurs externes du programme de maîtrise en informatique à l'UQAC.

Articles scientifiques dans des revues avec comité de lecture

[1] Yagiz Nizipli, Daniel Lemire, Parsing Millions of URLs per Second, Software: Practice and Experience (to appear).

[2] Daniel Lemire, Exact Short Products From Truncated Multipliers, Computer Journal (to appear). `http://doi.org/10.1093/comjnl/bxad077`

[3] Robert Clausecker, Daniel Lemire, Transcoding Unicode Characters with AVX-512 Instructions, Software: Practice and Experience **53** 12, 2023. `https://doi.org/10.1002/spe.3261`

[4] Noble Mushtak, Daniel Lemire, Fast Number Parsing Without Fallback, Software: Practice and Experience **53** 7, 2023. `http://doi.org/10.1002/spe.3198`

[5] Tom Humeau, Isabelle Savard, Daniel Lemire, Pierre-Olivier Dionne, Gustavo Adolfo Angulo Mendoza, Patrick Plante, Anne Marie Pinard, Jean-Sébastien Roy, FORCES 3 : Exploitation à des fins pédagogiques des données d'un portail d'apprentissage de l'autogestion de la douleur. Développement d'une architecture de collecte et d'analyse de données et d'un module de suivi du développement des compétences. Médiations et médiatisation **12**, 2022. `https://doi.org/10.52358/mm.vi12.287`

[6] Bahman Abbassi, Li-Zhen Cheng, Michel Jébrak, Daniel Lemire, 3D Geophysical Predictive Modeling by Spectral Feature Subset Selection in Mineral Exploration, Minerals **12** 1296, 2022. `https://doi.org/10.3390/min12101296`

[7] Thomas Mueller Graf, Daniel Lemire, Binary Fuse Filters: Fast and Smaller Than Xor Filters, Journal of Experimental Algorithmics **27**, 2022. `https://doi.org/10.1145/3510449`

[8] Daniel Lemire, Wojciech Muła, Transcoding Billions of Unicode Characters per Second with SIMD Instructions, Software: Practice and Experience **52** 2, 2022. `https://doi.org/10.1002/spe.3036`

[9] Marcus D. R. Klarqvist, Wojciech Muła, Daniel Lemire, Efficient Computation of Positional Population Counts Using SIMD

Instructions, Concurrency and Computation: Practice and Experience **33** 17, 2021. https://doi.org/10.1002/cpe.6304

[10] Daniel Lemire, Colin Bartlett, Owen Kaser, Integer Division by Constants: Optimal Bounds, Heliyion **7** 6, 2021. https://doi.org/10.1016/j.heliyon.2021.e07442

[11] Daniel Lemire, Number Parsing at a Gigabyte per Second, Software: Practice and Experience **51** 8, 2021. https://doi.org/10.1002/spe.2984

[12] John Keiser, Daniel Lemire, Validating UTF-8 In Less Than One Instruction Per Byte, Software: Practice and Experience **51** 5, 2021. https://doi.org/10.1002/spe.2920

[13] François Lewis, Patrick Plante, Daniel Lemire, Pertinence, efficacité et principes pédagogiques de la réalité virtuelle et augmentée en contexte scolaire: une revue de littérature, Médiations et médiatisations **5**, 2021.

[14] Thomas Mueller Graf, Daniel Lemire, Xor Filters: Faster and Smaller Than Bloom and Cuckoo Filters, Journal of Experimental Algorithmics **25** 1, 2020. https://doi.org/10.1145/3376122

[15] Wojciech Muła, Daniel Lemire, Base64 encoding and decoding at almost the speed of a memory copy, Software: Practice and Experience **50** 2, 2020. https://doi.org/10.1002/spe.2777

[16] Xueping Dai, Li Zhen Cheng, Jean-Claude Mareschal, Daniel Lemire, Chong Liua, New method for denoising borehole transient electromagnetic data with discrete wavelet transform, Journal of Applied Geophysics **168**, 2019. https://doi.org/10.1016/j.jappgeo.2019.05.009

[17] Geoff Langdale, Daniel Lemire, Parsing Gigabytes of JSON per Second, VLDB Journal **28** 6, 2019. https://doi.org/10.1007/s00778-019-00578-5

[18] Daniel Lemire, Owen Kaser, Nathan Kurz, Faster Remainder by Direct Computation: Applications to Compilers and Software Libraries, Software: Practice and Experience **49** 6, 2019. https://doi.org/10.1002/spe.2689

[19] Daniel Lemire, Fast Random Integer Generation in an Interval, ACM Transactions on Modeling and Computer Simulation **29** 1, 2019. https://doi.org/10.1145/3230636

[20] Daniel Lemire, Melissa E. O'Neill, Xorshift1024*, Xorshift1024+, Xorshift128+ and Xoroshiro128+ Fail Statistical Tests for Linearity, ACM Transactions on Modeling and Computer Simulation **350**, 2019. https://doi.org/10.1016/j.cam.2018.10.019

[21] Wojciech Muła, Daniel Lemire, Faster Base64 Encoding and Decoding Using AVX2 Instructions, ACM Transactions on the Web **12** 3, 2018. https://doi.org/10.1145/3132709

[22] Daniel Lemire, Owen Kaser, Nathan Kurz, Luca Deri, Chris O'Hara, François Saint-Jacques, Gregory Ssi-Yan-Kai, Roaring Bitmaps: Implementation of an Optimized Software Library, Software: Practice and Experience **48** 4, 2018. https://doi.org/10.1002/spe.2560

[23] Wojciech Muła, Nathan Kurz, Daniel Lemire, Faster Population Counts Using AVX2 Instructions, Computer Journal **61** 1, 2018. https://doi.org/10.1093/comjnl/bxx046

[24] Antonio Badia et Daniel Lemire, On Desirable Semantics of Functional Dependencies over Databases with Incomplete Information, Fundamenta Informaticae **158** 4, 2018. https://doi.org/10.3233/FI-2018-1651

[25] Daniel Lemire, Nathan Kurz, Christoph Rupp, Stream VByte: Faster Byte-Oriented Integer Compression. Information Processing Letters **130**, 2018. https://doi.org/10.1016/j.ipl.2017.09.011

[26] Jing Li, Yuhong Yan, Daniel Lemire, Full Solution Indexing for top-K Web Service Composition, IEEE Transactions on Services Computing **11** 3, 2018. http://dx.doi.org/10.1109/TSC.2016.2578924

[27] Dmytro Ivanchykhin, Sergey Ignatchenko, Daniel Lemire, Regular and almost universal hashing: an efficient implementation, Software: Practice and Experience **47** 10, 2017. http://dx.doi.org/10.1002/spe.2461

[28] Daniel Lemire, Christoph Rupp, Upscaledb: Efficient Integer-Key Compression in a Key-Value Store using SIMD Instructions, Information Systems **66**, 2017. http://dx.doi.org/10.1016/j.is.2017.01.002

[29] Samy Chambi, Daniel Lemire, Robert Godin, Vers de meilleures performances avec des Roaring bitmaps, Technique et Science Informatiques **35** 3, 2016.

[30] Daniel Lemire, Gregory Ssi-Yan-Kai, Owen Kaser, Consistently faster and smaller compressed bitmaps with Roaring, Software: Practice & Experience **46** 11, 2016. http://dx.doi.org/10.1002/spe.2402

[31] Daniel Lemire, Owen Kaser, Faster 64-bit universal hashing using carry-less multiplications, Journal of Cryptographic Engineering **6** 3, 2016. http://dx.doi.org/10.1007/s13389-015-0110-5

[32] Daniel Lemire, Nathan Kurz, Leonid Boytsov, SIMD Compression and the Intersection of Sorted Integers, Software: Practice & Experience **46** 6, 2016. http://dx.doi.org/10.1002/spe.2326

[33] Samy Chambi, Daniel Lemire, Owen Kaser, Robert Godin, Better bitmap performance with Roaring bitmaps, Software: Practice & Experience **46** 5, 2016. http://dx.doi.org/10.1002/spe.2325

[34] Owen Kaser and Daniel Lemire, Compressed bitmap indexes: beyond unions and intersections, Software: Practice & Experience **46** 2, 2016. http://dx.doi.org/10.1002/spe.2289

[35] Adina Crainiceanu and Daniel Lemire, Multidimensional Bloom Filters, Information Systems **54**, 2015. http://dx.doi.org/10.1016/j.is.2015.01.002

[36] Antonio Badia et Daniel Lemire, Functional dependencies with null markers, Computer Journal **58** 5, 2015. http://dx.doi.org/10.1093/comjnl/bxu039

[37] Wayne Xin Zhao, Xudong Zhang, Daniel Lemire, Dongdong Shan, Jian-Yun Nie, Hongfei Yan, Ji-Rong Wen, A General SIMD-based Approach to Accelerating Compression Algorithms, ACM Transactions on Information Systems **45** 1, 2015. http://dx.doi.org/10.1145/2735629

[38] Xiaodan Zhu, Peter Turney, Daniel Lemire, Andre Vellino, Measuring academic influence: Not all citations are equal, Journal of the Association for Information Science and Technology **66** 2, 2015. http://dx.doi.org/10.1002/asi.23179

[39] Daniel Lemire et Leonid Boytsov, Decoding billions of integers per second through vectorization, Software: Practice & Experience **45** 1, 2015. http://dx.doi.org/10.1002/spe.2203

[40] Owen Kaser et Daniel Lemire, Strongly universal string hashing is fast, Computer Journal **57** 11, 2014. http://dx.doi.org/10.1093/comjnl/bxt070

[41] Hazel Webb, Daniel Lemire, Owen Kaser, Diamond Dicing, Data & Knowledge Engineering **86**, 2013. http://arxiv.org/abs/1006.3726

[42] Zoltán Prekopcsák et Daniel Lemire, Time Series Classification by Class-Specific Mahalanobis Distances, *Advances in Data Analysis and Classification* **6** 3, 2012. http://arxiv.org/abs/1010.1526

[43] Daniel Lemire, Owen Kaser, Eduardo Gutarra, Reordering Rows for Better Compression: Beyond the Lexicographic Order, *ACM Transactions on Database Systems* **37** 3, 2012. http://arxiv.org/abs/1207.2189

[44] Daniel Lemire, The universality of iterated hashing over variable-length strings, *Discrete Applied Mathematics* **160** (4-5), 2012. http://arxiv.org/abs/1008.1715

[45] Antonio Badia et Daniel Lemire, A Call to Arms: Revisiting Database Design, *SIGMOD Record* **40** 3, 2011. http://arxiv.org/abs/1105.6001

[46] Daniel Lemire and Owen Kaser, Reordering columns for smaller indexes, *Information Sciences* **181** 12, 2011. http://arxiv.org/abs/0909.1346

[47] Daniel Lemire and Owen Kaser, Recursive n-gram hashing is pairwise independent, at best, *Computer Speech and Language* **24** 4, 2010. http://arxiv.org/abs/0705.4676

[48] Daniel Lemire, Owen Kaser, Kamel Aouiche, Sorting improves word-aligned bitmap indexes, *Data & Knowledge Engineering* **69** 1, 2010. http://arxiv.org/abs/0901.3751

[49] Daniel Lemire, Faster retrieval with a two-pass Dynamic-Time-Warping lower bound, *Pattern Recognition* **42** 9, 2009. http://arxiv.org/abs/0811.3301

[50] Daniel Lemire, Martin Brooks, Yuhong Yan, An optimal linear time algorithm for quasi-monotonic segmentation, *International Journal of Computer Mathematics* **86** 7, 2009. http://arxiv.org/abs/0709.1166

[51] Kamel Aouiche, Daniel Lemire and Robert Godin, Web 2.0 OLAP: From data cubes to tag clouds, *Lecture Notes in Business Information Processing* **18**, 2009. http://arxiv.org/abs/0905.2657

[52] Daniel Lemire and Owen Kaser, Hierarchical Bin Buffering: Online local moments for dynamic external memory arrays, *ACM Transactions on Algorithms* **4** 1, 2008.

[53] Daniel Lemire, Streaming maximum-minimum filter using no more than three comparisons per element, *Nordic Journal of Computing* **13** 4, 2006.

[54] Owen Kaser and Daniel Lemire, Attribute value reordering for efficient hybrid OLAP, *Information Sciences* **176** 16, 2006.

[55] Daniel Lemire, Harold Boley, Sean McGrath, Marcel Ball, Collaborative filtering and inference rules for context-aware learning object recommendation, *International Journal of Interactive Technology & Smart Education* **2** 3, 2005.

[56] Daniel Lemire, Scale and Translation Invariant Collaborative Filtering Systems, *Information Retrieval* **8** 1, 2005.

[57] Serge Dubuc, Daniel Lemire, Jean-Louis Merrien, Fourier analysis of 2-point Hermite interpolatory subdivision schemes, *Journal of Fourier Analysis and Applications* **7** 5, 2001.

[58] Daniel Lemire, Chantal Pharand, Jean-Claude Rajaonah, Bruno Dubé, A.-Robert LeBlanc, Wavelet time entropy, T wave morphology and myocardial ischemia, *IEEE Transactions in Biomedical Engineering* **47** 7, 2000.

[59] Gilles Deslauriers, Serge Dubuc, and Daniel Lemire, Une famille d'ondelettes biorthogonales sur l'intervalle obtenue par un schéma d'interpolation itérative, *Annales des Sciences Mathématiques du Québec* **23** 1, 1999.

Communications avec arbitrage

[60] Fatma Miladi, Daniel Lemire and Valéry Psyché, Learning Engagement and Peer Learning in MOOC: A Selective Systematic Review, ITS 2023 - 19th International Conference on Intelligent Tutoring Systems, 2023.

[61] Daniel Lemire, Unicode at Gigabytes per Second, SPIRE 2021, 2021.

[62] Pierre Marie Ntang, Daniel Lemire, SIMDGiraffe: Visualizing SIMD Functions, VISIGRAPP 2021, 2021.

[63] Edmon Begoli, Jesús Camacho-Rodríguez, Julian Hyde, Michael J. Mior, Daniel Lemire, Apache Calcite: A Foundational Framework for Optimized Query Processing Over Heterogeneous Data Sources, ACM SIGMOD 2018, 2018. `https://doi.org/10.1145/3183713.3190662`

[64] Dara Aghamirkarimi, Daniel Lemire, Discovering the Smart Forests with Virtual Reality, ACM WIMS 2017, 2017.

[65] Samy Chambi, Daniel Lemire, Robert Godin, Kamel Boukhalfa, Charles Allen, Fangjin Yang, Optimizing Druid with Roaring bitmaps, IDEAS 2016, 2016.

[66] Jing Li, Yuhong Yan, Daniel Lemire, Scaling up Web Service Composition with the Skyline Operator, IEEE ICWS 2016, 2016.

[67] Samy Chambi, Daniel Lemire, Robert Godin, Nouveaux modèles d'index bitmap compressés à 64 bits, EDA 2016, 2016.

[68] Perrine Ruer, Charles Gouin-Vallerand, Le Zhang, Daniel Lemire, and Evelyne F. Vallières, An analysis tool for the contextual information from field experiments on driving fatigue, CONTEXT 2015, 2015.

[69] Jing Li, Yuhong Yan, Daniel Lemire, A web service composition method based on compact K2-trees, IEEE SCC 2015, 2015.

[70] Jeff Plaisance, Nathan Kurz, Daniel Lemire, Vectorized VByte Decoding, International Symposium on Web Algorithms 2015, 2015.

[71] Samy Chambi, Daniel Lemire, Robert Godin, Owen Kaser, Roaring bitmap : nouveau modèle de compression bitmap, EDA 2014, 2014.

[72] Jing Li, Yuhong Yan, Daniel Lemire, Full Solution Indexing Using Database for QoS-aware Web Service Composition, IEEE SCC 2014, 2014. **(Best Student Paper Award)**

[73] Andre Vellino and Daniel Lemire, Extracting, Transforming and Archiving Scientific Data, VLDL 2011, 2011.

[74] Owen Kaser, Daniel Lemire, Kamel Aouiche, Histogram-aware sorting for Enhanced Word-Aligned Compression in bitmap indexes, DOLAP 2008, 2008.

[75] Kamel Aouiche, Daniel Lemire, Owen Kaser, Tri de la table de faits et compression des index bitmaps avec alignement sur les mots, BDA 2008, 2008.

[76] Hazel Webb, Owen Kaser, Daniel Lemire, Pruning attributes from data cubes with Diamond Dicing, IDEAS 2008, 2008.

[77] Kamel Aouiche, Daniel Lemire, Robert Godin, Collaborative OLAP with tag clouds: Web 2.0 OLAP formalism and experimental evaluation, WEBIST 2008, 2008.

[78] Kamel Aouiche and Daniel Lemire, A comparison of five probabilistic view-size estimation techniques in OLAP, DOLAP 2007, 2007.

[79] Owen Kaser and Daniel Lemire, Removing manually-generated boilerplate from electronic texts: Experiments with project Gutenberg e-books, CASCON 2007, 2007.

[80] Owen Kaser and Daniel Lemire, Tag-Cloud Drawing: Algorithms for cloud visualization, Tagging and Metadata for Social Information Organization (WWW 2007), 2007.

[81] Kamel Aouiche and Daniel Lemire, Unassuming view-size estimation techniques in OLAP: An experimental comparison, ICEIS 2007, 2007.

[82] Daniel Lemire, A better alternative to piecewise linear time series segmentation, SIAM Data Mining 2007, 2007.

[83] Dan Kucerovsky and Daniel Lemire, Monotonicity analysis over chains and curves, Curves and Surfaces 2006, 2007.

[84] Owen Kaser, Daniel Lemire, Steven Keith, The LitOLAP Project: data warehousing with literature, CaSTA 2006, 2006.

[85] Daniel Lemire, Martin Brooks, Yuhong Yan, An optimal linear time algorithm for quasi-monotonic segmentation, ICDM 2005, 2005.

[86] Will Fitzgerald, Daniel Lemire, Martin Brooks, Quasi-monotonic segmentation of state variable behavior for reactive control, AAAI 2005, 2005.

[87] Yuhong Yan, Martin Brooks, Daniel Lemire, Scale-based monotonicity analysis in qualitative modelling with flat segments, IJCAI 2005, 2005.

[88] Daniel Lemire and Anna Maclachlan, Slope One predictors for online rating-based collaborative filtering. SIAM Data Mining 2005, 2005.

[89] Yuhong Yan, Daniel Lemire, Martin Brooks, Monotone pieces analysis for qualitative modeling, MONET 2004, 2004.

[90] Michelle Anderson, Marcel Ball, Harold Boley, Stephen Greene, Nancy Howse, Daniel Lemire, Sean McGrath, RACOFI: A rule-applying collaborative filtering system, IEEE/WIC COLA 2003, 2003.

[91] Owen Kaser and Daniel Lemire, Attribute value reordering for efficient hybrid OLAP. DOLAP 2003, 2003.

[92] Daniel Lemire, A family of 4-point dyadic high resolution subdivision schemes, Curves and Surfaces 2002, 2003.

[93] Daniel Lemire, Wavelet-based relative prefix sum methods for range sum queries in data cubes, CASCON 2002, 2002. **(Best Paper Award)**

Livres

[94] Mamadou Tadiou Koné and Daniel Lemire (Eds.), Canadian Semantic Web, Springer, 2006.

Numéros spéciaux et éditoriaux

[95] Cameron Neylon, Jan Aerts, C. Titus Brown, Daniel Lemire, Jarrod Millman, Peter Murray-Rust, Fernando Perez, Neil Saunders, Arfon Smith, Gaël Varoquaux and Egon Willighagen, Changing computational research: The challenges ahead, *Source Code for Biology and Medicine* **7** (2), 2012.

[96] Daniel Lemire and Richard Hotte (Eds.), Special issue on learning and the social web, Journal of Emerging Technologies in Web Intelligence **2** 1, 2010.

[97] Mamadou Tadiou Koné and Daniel Lemire (Eds.), Special issue on Canadian Semantic Web, Computational Intelligence **23** 3, 2007.

Chapitres de livre

[98] Sylvie Noël and Daniel Lemire, On the challenges of collaborative data processing, in Collaborative Information Behaviour: User Engagement and Communication Sharing (edited by Jonathan Foster), IGI Global, 2010.

Magazines

[99] Daniel Lemire, Marketing your ideas: Don't sell yourself short, ACM XRDS: Crossroads **16** (4), 2010.

Rapports techniques

[100] Daniel Lemire, Colin Bartlett, Owen Kaser, Integer Division by Constants: Optimal Bounds, UNBSJ CSAS Technical Report TR-20-001, 2020.

[101] Owen Kaser and Daniel Lemire, Threshold and Symmetric Functions over Bitmaps, UNBSJ CSAS Technical Report TR-14-001, 2014.

[102] Hazel Webb, Owen Kaser, Daniel Lemire, Pruning attributes from data cubes with Diamond Dicing, UNBSJ CSAS Technical Report TR-08-011, 2008.

[103] Owen Kaser and Daniel Lemire, Removing manually-generated boilerplate from electronic texts: Experiments with project Gutenberg e-books. UNBSJ CSAS Technical Report TR-07-001, 2007.

[104] Daniel Lemire and Owen Kaser, One-pass, one-hash n-gram statistics estimation, UNBSJ CSAS Technical Report TR-06-001, 2006.

[105] Steven Keith, Owen Kaser, Daniel Lemire, Analyzing large collections of electronic text using OLAP, UNBSJ CSAS Technical Report TR-05-001, 2005.

[106] Jean-Michel Nonglaton, Franco Lenardon, and Daniel Lemire, Wavelet shrinkage of LINAC III and protons synchrotron booster transformers by the Haar Transform, CERN Technical Report Number AB-Note-2003-033, avril 2003, VNRC 45816.

[107] Daniel Lemire, Local interpolation by high resolution subdivision schemes. Technical Report 200205-01, Acadia University, 2002.

Ouvrages d'enseignement

[INF1220] Robert Godin, Daniel Lemire, Java Pas à Pas, Introduction à la Programmation et au Langage Java, 228 pages, 2023 `https://github.com/RobertGodin/JavaPasAPas`.

[INF9004] Daniel Lemire, Informatique des entrepôts de données, 2012. Cours en ligne : `http://benhur.teluq.ca/SPIP/inf9004/`.

[INF6104] Daniel Lemire, Recherche d'informations et web, 2008. Cours en ligne : `http://benhur.teluq.ca/SPIP/inf6104/`.

[INF6460] Daniel Lemire, Recherche et filtrage d'informations, 2007. Cours en ligne : `http://benhur.teluq.ca/SPIP/inf6460/`.

[INF6450] Daniel Lemire, Gestion de l'information avec XML, ISBN 2762418747, 2005. (Révisé en 2006, 2007 et 2008.) En ligne : `http://www.teluq.ca/inf6450/`.

Conférénces publiques récentes

La plupart de mes conférences publiques récentes sont disponibles en ligne sur YouTube (`https://youtube.com/playlist?list=PLlCBCOY8ivBf_G4erndahVgOf2_5Jj8bI`).

- "Ada: Parsing Millions of URLs per Second", NodeConf EU 2023 (Irlande, 2023)
- "Accurate and efficient software microbenchmarks", BID (Montréal, 2023)
- "Unicode at gigabytes per second", SPIRE (en ligne, 2021)
- "Parsing numbers at a gigabyte per second", MIT Fast Code Seminar (en ligne, 2021)
- "Floating-point Number Parsing w/Perfect Accuracy at GB/sec", Go Systems Conf (en ligne, 2020)
- "Parsing JSON Really Quickly: Lessons Learned", QCon San Francisco (San Francisco, 2019)
- "Next Generation Indexes For Big Data Engineering", ODSC East (Boston, 2018)
- "Engineering Fast Indexes for Big Data Applications", Spark Summit East (Boston, 2017)
- "Algorithms: How content finds you", Sommet de la découvrabilité (CRTC, Toronto, 2016)
- "Pour la perennité de nos contenus nationaux : l'enjeu de la visibilité" aux rencontres de l'ADISQ (Montréal, 2016)

Logiciel open source (sélection)

- simdjson: Parsing gigabytes of JSON per second, C++ `https://github.com/simdjson/simdjson`
- RoaringBitmap: A better compressed bitset in Java `https://github.com/RoaringBitmap/RoaringBitmap`
- fast_float: fast and exact implementation of the C++ from_chars functions for float and double types `https://github.com/fastfloat/fast_float`
- simdutf: Unicode routines: billions of characters per second `https://github.com/simdutf/simdutf`
- WHATWG-compliant and fast URL parser written in modern C++ `https://github.com/ada-url/ada`