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Experience

- 2004-...* Computer Science Professor
Promoted to Full Professor in 2009
Université du Québec à Montréal (UQAM)
<http://www.proesseurs.uqam.ca/pages/lemire.daniel.htm>
- 2002-2004* Research Officer in eBusiness
Institute for Information Technology, E-business
National Research Council of Canada (NRC)
- 2002-2003* Team Leader of the e-Health Research Group
Institute for Information Technology
National Research Council of Canada (NRC)
- 2001-2002* Assistant Professor
Acadia University (Wolfville, Canada)
- 1999-2001* Entrepreneur
Digital Signal Processing (Medical Images and Geophysics)
TechElements Inc. and **Ondelette.com**
- 1998-1999* Post-doctoral fellow
Institut de génie biomédial (Montreal, Canada)

Education

- 1995-1998* Ph.D. in Engineering Mathematics
“Iterative Schemes and Wavelets”
École Polytechnique de Montréal and **Université de Montréal**
Supervisors: Gilles Deslauriers and Serge Dubuc
- 1994-1995* M.Sc.—“A Priori Approximations for Nonlinear Systems”
University of Toronto
Supervisor: Catherine Sulem
- 1990-1994* B.Sc. with “High Distinction”
University of Toronto

Competitive scholarships and prizes as a student

- FCAR scholarship (Ph.D.) and NSERC scholarship (M.Sc. and Ph.D.);
- C.D. Howe Memorial for 4 years (\approx \$50,000);
- NSERC Canada Scholarship for 4 years (\$4,000);
- St.Micheal's College Dean's medal (class of 1994);
- 3T0 Scholarship (UofT) (\$1,000).

Secondary affiliations

- Adjunct professor at the University of New Brunswick in the Computer Science and Applied Statistics Department.

Recent Teaching Experience

- INF 9004 - Informatique des entrepôts de données (A Computer Science Perspective on Data Warehousing);
- INF 6104 - Recherche d'informations et web (Information Retrieval and Web);
- INF 6460 - Recherche et filtrage d'informations (Information Retrieval and Filtering);
- INF 6450 - Gestion de l'information avec XML (Information Management with XML).

Professional Membership

- Association for Computing Machinery (ACM).

Supervision

Name	Years	Program
Nacima Hassaine	2010-...	M.Sc.
Loukmane Arzim	2010-...	Ph.D.
Eduardo Gutarra	2010-...	M.Sc.
Badis Merdaoui	2008-...	Ph.D.
Kamel Aouiche	2006-2008	Post-doct.
Hazel Webb	2005-2010s	Ph.D.
Steven Keith	2004-2006	M.Sc.

Research program

Individual Research Funding (external agencies)

- NSERC Grant 2007-2012 (\$75,000);
- FQRNT Grant 2006-2008 (\$54,249);
- NSERC Grant 2003-2007 (\$48,000).

Team Research Funding (external agencies)

- CFI Grant 2008-2009 (\$999,618) with G. Paquette and P. Valtchev;
- New Brunswick Innovation Fund 2007-2008 (\$10,000) with Owen Kaser;
- New Brunswick/Quebec Cooperation Program 2007-2008 (\$1,825) with Owen Kaser.

Services (external)

Blog

- I run a blog at <http://www.daniel-lemire.com/>. I have over 2 400 subscribers.

Program committees

- ACM Conference on Recommender Systems (RecSys) 2009, 2010;
- International Conference on Enterprise Information Systems (ICEIS) 2009, 2010;
- Conference on Web Information Systems and Technologies (WEBIST) 2007, 2008, 2009, 2010;
- International Conference on Database and Expert Systems Applications (DEXA) 2009, 2010;
- Association for the Advancement of Artificial Intelligence (AAAI) 2008—Web Track;

Funding Agencies

- **Fonds Québécois de la recherche sur la Nature et les Technologies (FQRNT)**
 - From 2007 to 2010, I was a member of the review committee 03F (Theoretical Computer Science).
 - In 2006–2007, I was a member of the review committee 309 (Computer Science).

Under Review

- [1] Daniel Lemire, The universality of iterated hashing over variable-length strings.
- [2] Hazel Webb, Owen Kaser, Daniel Lemire, Evaluating Multidimensional Queries by Diamond Dicing.
- [3] Daniel Lemire and Owen Kaser, Reordering Columns for Smaller Indexes.

Journal Articles

- [CSL2010] Daniel Lemire and Owen Kaser, Recursive n-gram hashing is pairwise independent, at best, *Computer Speech and Language* **24** 4, 2010.
- [DKE2010] Daniel Lemire, Owen Kaser, Kamel Aouiche, Sorting improves word-aligned bitmap indexes, *Data & Knowledge Engineering* **69** 1, 2010.
- [PR2009] Daniel Lemire, Faster Retrieval with a Two-Pass Dynamic-Time-Warping Lower Bound, *Pattern Recognition* **42** 9, 2009.
- [IJCM2009] Daniel Lemire, Martin Brooks, Yuhong Yan, An Optimal Linear Time Algorithm for Quasi-Monotonic Segmentation, *International Journal of Computer Mathematics* **86** 7, 2009.

- [LNBIP2009] 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.
- [TALG2008] Daniel Lemire and Owen Kaser, Hierarchical Bin Buffering: Online Local Moments for Dynamic External Memory Arrays, *ACM Transactions on Algorithms* **4** 1, 2008.
- [NJC2006] Daniel Lemire, Streaming Maximum-Minimum Filter Using No More than Three Comparisons per Element, *Nordic Journal of Computing* **13** 4, 2006.
- [IS2006] Owen Kaser and Daniel Lemire, Attribute Value Reordering for Efficient Hybrid OLAP, *Information Sciences* **176** 16, 2006.
- [LL2005] 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.
- [IR2005] Daniel Lemire, Scale and Translation Invariant Collaborative Filtering Systems, *Information Retrieval* **8** 1, 2005. (Cited at least 25 times according to Google Scholar.)
- [JFAA2001] 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.
- [ITBE2000] 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. (Cited at least 34 times according to Google Scholar.)
- [ASMQ1999] Gilles Deslauriers, Serge Dubuc, and Daniel Lemire, Une famille d'ondelettes biorthogonales sur l'intervalle obtenue par un schéma d'interpolation itérative, *Ann. Sci. Math. Québec* **23** 1, 1999.

In Proceedings

- [DOLAP08] Owen Kaser, Daniel Lemire, Kamel Aouiche, Histogram-Aware Sorting for Enhanced Word-Aligned Compression in Bitmap Indexes, DOLAP 2008, 2008.
- [BDA08] Kamel Aouiche, Daniel Lemire and Owen Kaser, Tri de la table de faits et compression des index bitmaps avec alignement sur les mots (Fact Table Sorting and Word-Aligned Compression for Bitmap Indexes), BDA'08, 2008.
- [IDEAS08] Hazel Webb, Owen Kaser, Daniel Lemire, Pruning Attributes From Data Cubes with Diamond Dicing, IDEAS'08, 2008.

- [WEBIST08] Kamel Aouiche, Daniel Lemire, Robert Godin, Collaborative OLAP with Tag Clouds: Web 2.0 OLAP Formalism and Experimental Evaluation, WEBIST 2008, 2008.
- [DOLAP07] Kamel Aouiche and Daniel Lemire, A Comparison of Five Probabilistic View-Size Estimation Techniques in OLAP, DOLAP 2007, pp. 17–24, 2007.
- [CASCON07] Owen Kaser and Daniel Lemire, Removing Manually-Generated Boilerplate from Electronic Texts: Experiments with Project Gutenberg e-Books. CASCON 2007, pp. 272–275, 2007.
- [WWW07] Owen Kaser and Daniel Lemire, Tag-Cloud Drawing: Algorithms for Cloud Visualization. Tagging and Metadata for Social Information Organization (WWW 2007), 2007. (Cited at least 59 times according to Google Scholar.)
- [ICEIS07] Kamel Aouiche and Daniel Lemire, Unassuming View-Size Estimation Techniques in OLAP, An Experimental Comparison. ICEIS-2007, pp. 145–150, 2007.
- [SDM07] Daniel Lemire, A Better Alternative to Piecewise Linear Time Series Segmentation, SIAM Data Mining 2007, 2007.
- [CS06] Dan Kucerovsky and Daniel Lemire, Monotonicity Analysis over Chains and Curves. Curves and Surfaces 2006, pages 180–190, 2007.
- [CaSTA06] Owen Kaser, Daniel Lemire, Steven Keith, The LitOLAP Project: Data Warehousing with Literature, CaSTA 2006, Fredericton, 2006.
- [ICDM05] Daniel Lemire, Martin Brooks, and Yuhong Yan, An Optimal Linear Time Algorithm for Quasi-Monotonic Segmentation, ICDM-05, pp. 709-712, November 2005.
- [AAAI05] Will Fitzgerald, Daniel Lemire, and Martin Brooks, Quasi-monotonic segmentation of state variable behavior for reactive control, AAAI05, pp. 1145–1151, July 2005.
- [IJCAI05] Yuhong Yan, Martin Brooks, Daniel Lemire, Scale-Based Monotonicity Analysis in Qualitative Modelling with Flat Segments, IJCAI05, pp. 400–405, July 2005.
- [SDM2005] Daniel Lemire and Anna Maclachlan, Slope One Predictors for Online Rating-Based Collaborative Filtering. SIAM Data Mining 2005, pp. 471–476 2005. (Cited at least 77 times according to Google Scholar.)
- [MBR2004] Yuhong Yan, Daniel Lemire, and Martin Brooks, Monotonicity Analysis for Constructing Qualitative Models, MBR’04, 2004
- [Monet2004] Yuhong Yan, Daniel Lemire, and Martin Brooks, Monotone Pieces Analysis for Qualitative Modeling, ECAI MONET 2004, 2004.

- [COLA2003] Michelle Anderson, Marcel Ball, Harold Boley, Stephen Greene, Nancy Howse, Daniel Lemire, Sean McGrath, RACOFI: A Rule-Applying Collaborative Filtering System, IEEE/WIC COLA'03, Halifax, Canada, October 2003. (Cited at least 56 times according to Google Scholar.)
- [DOLAP2003] Owen Kaser and Daniel Lemire, Attribute Value Reordering for Efficient Hybrid OLAP. DOLAP'03, New Orleans, Louisiana, November 7, 2003.
- [CS2003] Daniel Lemire, A Family of 4-point Dyadic High Resolution Subdivision Schemes. Curves and Surfaces 2002, Saint-Malo, France, 2003.
- [CASCON2002] Daniel Lemire, Wavelet-Based Relative Prefix Sum Methods for Range Sum Queries in Data Cubes. CASCON2002, Toronto, Canada, 2002. (**Best Paper Award**)

Books

- [CSWWS2006] Mamadou Tadiou Koné and Daniel Lemire (Eds.), Canadian Semantic Web, Semantic Web and Beyond: Computing for Human Experience, Vol. 4, Springer, 2006, ISBN 0-387-29815-0.

Special Issues

- [JETWI2010] Daniel Lemire and Richard Hotte (Eds.), Special Issue on Learning and the Social Web, Journal of Emerging Technologies in Web Intelligence, Vol. 2 Issue 1, Academy Publisher, 2010, ISBN : 1798-0461.
- [CI2007] Mamadou Tadiou Koné and Daniel Lemire (Eds.), Special Issue on Canadian Semantic Web, Computational Intelligence, Blackwell Publishing, August 2007 - Vol. 23 Issue 3, pages 299–392.

Book chapters

- [Collab2010] Sylvie Noël, Daniel Lemire, On the Challenges of Collaborative Data Processing, in Collaborative Information Behaviour: User Engagement and Communication Sharing (edited by Jonathan Foster), IGI Global, April 2010, ISBN-10: 161520797X.

Technical Reports

- [0807.1734] Daniel Lemire, Faster Sequential Search with a Two-Pass Dynamic-Time-Warping Lower Bound, 2008. (arXiv:0807.1734)
- [TRD08011] Hazel Webb, Owen Kaser, Daniel Lemire, Pruning Attributes From Data Cubes with Diamond Dicing, UNBSJ CSAS Technical Report TR-08-011, 2008.
- [TRD07001] 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.
- [TRD06001] Daniel Lemire and Owen Kaser, One-Pass, One-Hash n-Gram Statistics Estimation, UNBSJ CSAS Technical Report TR-06-001, October 2006.

- [TRD05001] Steven Keith, Owen Kaser, Daniel Lemire, Analyzing Large Collections of Electronic Text Using OLAP, UNBSJ CSAS Technical Report TR-05-001, June 2005.
- [TRD01] Daniel Lemire, Sean McGrath, Implementing a Rating-Based Item-to-Item Recommender System in PHP/SQL, Technical Report D-01, January 2005.
- [BELL2004-TR] Daniel Lemire, Sean McGrath, and Bruce Spencer, The Design and Architecture of a Collaborative Filtering Web site — inDiscover.net, NRC Technical Report Submitted to Bell Canada, October 2004, 14 p.
- [DOLAP2003-TR] Owen Kaser and Daniel Lemire, Attribute Value Reordering for Efficient Hybrid OLAP, January 2004, 29 p., NRC 46509.
- [CERN2003] 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, April 2003, NRC 45816.
- [CHIPP2003] Irina Kondratova, Scott Flinn, and Daniel Lemire, Teleoncology Technology Assessment Report for the Teleoncology Project. Submitted to the Teleoncology Project, CHIPP, Health Canada, Beauséjour Hospital Corporation. Moncton, New Brunswick, February 2003, 25 p., NRC 45799.
- [Acadia200205-01] Daniel Lemire, Local Interpolation by High Resolution Subdivision Schemes. Technical Report 200205-01, Acadia University, April 2002.
- [THEM2001-02] Daniel Lemire, Baseline asymmetry, Tau projection, B-field estimation and automatic half-cycle rejection, THEM Geophysics Inc., THEM2001-02, February 2001.
- [THEM2001-01] Daniel Lemire, Off-time denoising: is stacking the solution?, THEM Geophysics Inc., THEM2001-01, January 2001.
- [THEM1999-02] Daniel Lemire, Rapport sur un nouvel algorithme de correction de la ligne de base pour THEM Geophysics, Splines interpolation des moyennes et moindres carrés (SIM), THEM Geophysics Inc., THEM1999-02, 1999.
- [CIRA1999] Alain Béliveau, Daniel Lemire, White paper sur la compression d'images par la Fast Wavelet Transform, société Compression d'Images, Réseaux et Automatismes, mars 1999.
- [EPM/RT-97/28] Gilles Deslauriers, Serge Dubuc, Daniel Lemire, Dérivés de l'interpolation itérative de Lagrange et les ondelettes b-adiques de Cohen-Daubechies-Feauveau, Rapport technique EPM/RT-97/28, École Polytechnique de Montréal, Montréal, avril 1997.

Lecture Notes

- [INF6104] Daniel Lemire, Recherche d'informations et web (Information Retrieval and the Web), Université du Québec à Montréal, 2008. Online course: <http://benhur.teluq.uqam.ca/SPIP/inf6104/>.
- [INF6460] Daniel Lemire, Recherche et filtrage d'informations (Information Retrieval and Filtering), Université du Québec à Montréal, 2007. Online course: <http://benhur.teluq.uqam.ca/SPIP/inf6460/>.
- [INF6450] Daniel Lemire, Gestion de l'information avec XML (Information Management with XML), Université du Québec à Montréal, ISBN 2762418747, 2005. (Revised in 2006, 2007 and 2008.) Online course: <http://www.teluq.uqam.ca/inf6450/>.

Open Source Software

- Daniel Lemire, JavaEWAH, A compressed alternative to the Java BitSet class, 2009. (<http://code.google.com/p/javaewah/>, over 400 downloads)
- Daniel Lemire, Rolling Hash C++ Library, 2009 (<http://code.google.com/p/ngramhashing/>, over 350 downloads)
- Daniel Lemire, Lemur Bitmap Index C++ Library, 2008. (<http://code.google.com/p/lemurbitmapindex/>, over 750 downloads)
- Daniel Lemire and Owen Kaser, Tag-Cloud Drawing Software, 2008. (<http://code.google.com/p/tagclouddrawing/>)
- Daniel Lemire, Fast Nearest-Neighbor Retrieval under the Dynamic Time Warping, 2008 (<http://code.google.com/p/lbimproved/>, over 1 400 downloads).
- Kamel Aouiche, Daniel Lemire, Unassuming materialized view-size estimation techniques in OLAP (C++), 2007 (<http://code.google.com/p/viewsizeestimation/>).
- Daniel Lemire, Fast maximum-minimum filters implemented in C++, 2007 (<http://code.google.com/p/maxminfilters/>, over 150 downloads).
- Daniel Lemire and Owen Kaser, Hierarchical Bin Buffering Library in C++, 2007 (<http://code.google.com/p/hierarchicalbinbuffering/>).
- Daniel Lemire, Cofi: A Java-Based Collaborative Filtering Library, 2003 (<http://www.nongnu.org/cofi/>).
- Daniel Lemire and Owen Kaser, Lemur OLAP, 2003 (<http://www.nongnu.org/lemur/>).
- Daniel Lemire and Raj Bhaskar, WebForum, 1999 (<http://webforum.sourceforge.net/>, over 4 000 downloads).