

JAMES ALEXANDER KING

CONTACT INFORMATION	School of Computer Science McGill University 3840 University St. McConnell 109 Montreal, QC H3A 2A7 Canada	<i>Email:</i> jking@cs.mcgill.ca <i>WWW:</i> www.jking.ca <i>Voice:</i> (514) 398-5485 <i>Fax:</i> (514) 398-3883
BIRTH	1980, Vancouver, BC, Canada	
CITIZENSHIP	Canada, United Kingdom	
RESEARCH INTERESTS	<ul style="list-style-type: none">• Computational geometry• Probabilistic analysis• Bioinformatics	
EDUCATION	McGILL UNIVERSITY Montreal, QC, Canada	2005/09 – Present
	Ph.D. student in Computer Science <ul style="list-style-type: none">• Thesis Topic: Geometric Split Trees• Advisor: Professor Luc Devroye• Area of Study: Probabilistic analysis, computational and combinatorial geometry	
	UNIVERSITY OF BRITISH COLUMBIA Vancouver, BC, Canada	2003/09 – 2005/08
	M.Sc., Computer Science, August 2005 <ul style="list-style-type: none">• Thesis Topic: Approximation Algorithms for Guarding 1.5-Dimensional Terrains• Advisor: Professor William Evans• Area of Study: Computational geometry	
	UNIVERSITY OF WATERLOO Waterloo, ON, Canada	1998/09 – 2003/04
	B.Math., Computer Science, June 2003 <ul style="list-style-type: none">• <i>Honours with Distinction</i>• Research Topic: Unordered Searching• Research Supervisor: Professor J. Ian Munro• Area of Specialization: Data structures and algorithms	
	ST. GEORGE'S SCHOOL Vancouver, BC, Canada	1989/09 – 1998/06
	High School Diploma, June 1998 <ul style="list-style-type: none">• <i>Honours with Distinction</i>	

ARTICLES IN
REFEREED
JOURNALS

CHRISTINA BOUCHER AND JAMES KING, *Fast Motif Recognition via Application of Statistical Thresholds*, BMC Bioinformatics, 11(Suppl 1):S11, 2010.

LUC DEVROYE, JAMES KING, AND COLIN MCDIARMID, *Random Hyperplane Search Trees*, SIAM Journal on Computing, 38(6): 2411–2425, 2009.

THERESE BIEDL, TIMOTHY CHAN, ERIK D. DEMAINE, RUDOLF FLEISCHER, MORDECAI GOLIN, JAMES KING, AND J. IAN MUNRO, *Fun-Sort-or the Chaos of Unordered Binary Search*, Discrete Applied Mathematics, 144(3): 231–236, 2004.

ARTICLES IN
REFEREED
CONFERENCE
PROCEEDINGS

JAMES KING AND ERIK KROHN, *Terrain Guarding is NP-Hard*, Proceedings of the 21st Annual ACM-SIAM Symposium on Discrete Algorithms (SODA 10).

CHRISTINA BOUCHER AND JAMES KING, *Fast Motif Recognition via Application of Statistical Thresholds*, Proceedings of the 8th Asia Pacific Bioinformatics Conference (APBC 2010).

JAMES KING, *VC-Dimension of Visibility on Terrains*, Proceedings of the 20th Canadian Conference on Computational Geometry (CCCG 2008): 27–30, 2008.

JAMES KING, *Realization of Degree 10 Minimum Weight Spanning Trees in 3-Space*, Proceedings of the 18th Canadian Conference on Computational Geometry (CCCG 2006): 39–42, 2006.

STÉPHANE DUROCHER, CHRIS GRAY, AND JAMES KING, *Minimizing the Number of Arcs Linking a Permutation of Points in the Plane*, Proceedings of the 18th Canadian Conference on Computational Geometry (CCCG 2006): 181–184, 2006.

JAMES KING, *A 4-Approximation Algorithm for Guarding 1.5-Dimensional Terrains*, Lecture Notes in Computer Science, 3887. Proceedings of the 7th Latin American Theoretical Informatics Symposium (LATIN 2006), March 2006, Valdivia, Chile: 629–640, 2006.

ARTICLES
SUBMITTED

JAMES KING AND ERIK KROHN, *Terrain Guarding is NP-Hard*, Submitted to SIAM Journal on Computing.

JAMES KING AND DAVID KIRKPATRICK, *Improved Approximation for Guarding Simple Galleries from the Perimeter*, Submitted to Discrete and Computational Geometry.

SEMINAR TALKS

RANDOM HYPERPLANE SEARCH TREES

Universtiy of Manitoba, Winnipeg, MN, Canada 2009/07
Algorithms Seminar

University of British Columbia, Vancouver, BC, Canada 2009/06
Algorithms Seminar

University of Waterloo, Waterloo, ON, Canada 2009/05
Algorithms and Complexity Seminar

Carleton University, Ottawa, ON, Canada 2009/02
Computational Geometry Seminar

COMPLEXITY AND APPROXIMATION OF GUARDING PROBLEMS

Universitat Politècnica de Catalunya, Barcelona, CT, Spain 2007/01
Computational Geometry Seminar

ART GALLERY PROBLEMS

McGill University, Montreal, QC, Canada 2006/10
Algorithms Seminar

SPLAY TREES: TOWARDS DYNAMIC OPTIMALITY

McGill University, Montreal, QC, Canada 2005/11
Algorithms Seminar

SPLAY TREES: THE PRELIMINARY THEOREMS

McGill University, Montreal, QC, Canada 2005/10
Algorithms Seminar

AWARDS

WALTER C. SUMNER MEMORIAL FELLOWSHIP 2008/09 – Present
\$6,000 per year for two years, granted for research and academic merit.

RICHARD H. TOMLINSON DOCTORAL FELLOWSHIP 2005/09 – 2008/08
\$20,000 per year for three years, granted for research and academic merit. At most one new award holder per department per year at McGill University.

NSERC DOCTORAL POSTGRADUATE SCHOLARSHIP 2005/09 – 2007/08
\$21,000 per year for three years. Granted for research and academic merit. Canadian equivalent to NSF Graduate Research Fellowship. Held at McGill University.

NSERC MASTER'S POSTGRADUATE SCHOLARSHIP 2003/09 – 2005/08
\$17,500 per year for two years. Granted for research and academic merit. Held at the University of British Columbia.

UBC GRADUATE ENTRANCE SCHOLARSHIP 2003/09
\$4,000 granted for research and academic merit upon entrance to the University of British Columbia.

ADVANCED SYSTEMS INSTITUTE GRADUATE RECRUITMENT AWARD 2003/09
\$6,666 granted for research and academic merit upon entrance to the University of British Columbia.

NSERC UNDERGRADUATE RESEARCH ASSISTANTSHIP 2003/04 – 2003/08
\$4,000 over four months. Held at McGill University.

NSERC UNDERGRADUATE RESEARCH ASSISTANTSHIP 2002/01 – 2002/04
\$4,000 over four months. Held at Freedom Intelligence, Waterloo, ON, Canada.

RENE DESCARTES SCHOLARSHIP 1998/09
\$3,000 University of Waterloo entrance scholarship.

RELATED
EXPERIENCE

RESEARCH INTERN

- Microsoft Research Cambridge, Cambridge, UK 2010/02 – Present
- Applied machine learning techniques to extract meaning from asthma and allergy data.
 - Primary tasks included interdisciplinary research, data analysis, and development.
 - Primary development tools included the Infer.NET framework, C#, and MATLAB.

TEACHING ASSISTANT

- McGill University, Montreal, QC, Canada 2007/09 – 2007/12
- Probabilistic Analysis of Algorithms, taught by Prof. Luc Devroye
- University of British Columbia, Vancouver, BC, Canada 2004/09 – 2005/04
- Logic and Functional Programming, taught by Steven Wolfman.
 - Introduction to Software Development, taught by Prof. Gail Murphy.

RESEARCH ASSISTANT

- McGill University, Montreal, QC, Canada 2003/04 – 2003/08
- Undertook research in the area of random processes under Prof. Luc Devroye.
 - Focused research on conductance and rapid mixing of Markov chains.
- University of Oulu, Oulu, OL, Finland 2002/09 – 2002/12
- Assisted in research in the area of steganography.
 - Developed a simple Java media player with custom steganographic tools.
- University of Waterloo, Waterloo, ON, Canada 2001/09 – 2002/04
- Undertook research in the area of game theory under Prof. Chrysanne DiMarco.
 - Focused research on games with incomplete and imperfect information.

RESEARCHER/DEVELOPER

- Freedom Intelligence, Inc., Waterloo, ON, Canada 2002/01 – 2002/04
- Designed and implemented a customized multithreaded sorting algorithm for indexing of large-scale databases.
 - Primary tasks included algorithm research and C++ development.

SOFTWARE DEVELOPER

- Pandora Neue Medien, GmbH, Stuttgart, BW, Germany 2001/04 – 2001/09
- Developed an XSL transformer to create HTML documents from XML data.
 - HTML documents were for display in learning stations in the Jewish Museum Berlin.

ACADEMIC
SERVICE

PROGRAM COMMITTEES

- 17th Annual Ontario Combinatorics Workshop (OCW 2009)
Waterloo, ON, Canada
May, 2009

REFEREED ARTICLES

- FSTTCS (1)
- SIAM Journal on Computing (1)
- STACS (1)
- Algorithmica (1)

COMMUNITY
INVOLVEMENT

Currently, I volunteer on a weekly basis for Marché Duluth, a local, non-profit, organic farmer's market that was started in June of 2009.