

Curriculum Vitae

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1 General Information

Preparation

Lewis University	Romeoville, IL USA	Computer Science and Physics	B.A. 1988
Illinois Institute of Technology	Chicago, IL USA	Computer Science	M.S. 1990
Illinois Institute of Technology	Chicago, IL USA	Computer Science	Ph.D. 1995

Academic and Professional Experience

2004–Present	<i>Associate Professor, Loyola University Chicago (CS), Chicago, IL, USA</i>
1999–2007	<i>Adjunct Professor (Visitor), Northwestern University (ECE), Evanston, IL USA</i>
2001–2004	<i>Visiting Associate Professor, Loyola University Chicago (CS), Chicago, IL, USA</i>
1999–2000	<i>Assistant Professor, DePaul University (CS), Chicago, IL, USA</i>
1998–1999	<i>Visiting Assistant Professor, Loyola University (Math/CS), Chicago, IL, USA</i>
1996–1998	<i>Postdoctoral Scientist, Argonne National Laboratory (MCS Division), Argonne, IL, USA</i>
1996–1997	<i>Adjunct Assistant Professor, Illinois Institute of Technology (CS), Chicago, IL, USA</i>

Professional (Industry) Experience

2002–2004	<i>President and CEO, Nimkathana Corporation, Chicago, IL, USA</i>
1995–1996	<i>Development Manager, R.R. Donnelley and Sons, Lombard, IL, USA</i>
1993–1995	<i>Senior Member of Technical Staff, R.R. Donnelley Technical Center, Lisle, IL, USA</i>
1991–1993	<i>Member of Technical Staff, Tellabs, Lisle, IL, USA</i>

Dissertation

Title An Enhanced Actors Model for Parallel and Distributed Processing

Advisor Professor Thomas W. Christopher

Academic Recognition

2008-2009 Faculty Fellow, Center for Urban, Environmental Research and Policy, <http://www.luc.edu/cuerp>

1989-1990 Argonne National Laboratory Graduate Scholars Program, Environmental and Information Sciences Division

1988-1994 Teaching and Research Assistantships (for entire studies)

1989 Summer Institute in Parallel Processing, Argonne National Laboratory, Mathematics and Computer Science Division (one of 26 students selected competitively from a national pool of nearly 90 pre-Ph.D. graduate students)

2 Publications

Most items on this list can be downloaded from <http://gkt.etl.luc.edu/articles>.

Books

1. T. W. Christopher and G. K. Thiruvathukal. *High Performance Java Platform Computing*. Prentice Hall PTR, Upper Saddle Ridge, NJ, 2000.
2. G. K. Thiruvathukal, J. P. Shafae, and T. W. Christopher. *Web Programming in Python: Techniques for Integrating Linux, Apache Web Server, and MySQL*. Prentice Hall PTR, Upper Saddle Ridge, NJ, 2001.

Peer-Reviewed Journal Publications

1. W. T. O'Connell, G. K. Thiruvathukal, and T. W. Christopher. Distributed Memo: Heterogeneously Distributed Directories of Unordered Queues. In *International Journal of Mini and Microcomputers*, 1997. (Conference paper below selected for special-issue journal publication.)
2. I. T. Foster, G. K. Thiruvathukal, and S. Tuecke. Technologies for Ubiquitous Supercomputing: A Java Interface to the Nexus Communication system. *Concurrency: Practice and Experience*, June 1997.
3. I. T. Foster, J. Geisler, W. Gropp, N. Karonis, E. Lusk, G. K. Thiruvathukal, and S. Tuecke. A Wide-Area Implementation of the Message Passing Interface. *Parallel Computing*, 24(12):1735-1749, 1998.
4. G. K. Thiruvathukal, L. S. Thomas, and A. T. Korczynski. Reflective Remote Method Invocation. *Concurrency: Practice and Experience*, 1998.
5. I. Foster, G. Laszewski, G. K. Thiruvathukal, and B. Toonen. Computational Framework for Telemedicine. *Future Generation Computer Systems*, 14:109-123, 1998.
6. G. K. Thiruvathukal, P. M. Dickens, and S. Bhatti. Java on Networks of Workstations (JavaNOW): A Parallel Computing Framework Inspired by Linda and the Message Passing Interface. *Concurrency: Practice and Experience*, 12(13):1093-1116, November 2000.

Peer-Reviewed Conference Publications

1. G. K. Thiruvathukal and T. W. Christopher. A Simulation of Demand-Driven Dataflow: Translation of Lucid into MDC Language. In *IEEE International Parallel Processing Symposium*, 1991.

2. W. T. O'Connell, G. K. Thiruvathukal, and T. W. Christopher. A Generic Modeling Framework for Heterogeneous Parallel and Distributed Computing. In *International Conference on Advance Science and Technology 1994 (ICAST 1994)*, AT&T Bell Laboratories, 1994.
3. W. T. O'Connell, G. K. Thiruvathukal, and T. W. Christopher. Memo: An Environment to Support Heterogeneous Parallel and Distributed Processing. In *International Conference on Parallel Processing*, 1994.
4. W. T. O'Connell, G. K. Thiruvathukal, and T. W. Christopher. Distributed Memo: Heterogeneously Distributed Directories of Unordered Queues. In *Sixth ISMM/IASTED Conference on Parallel and Distributed Computing Systems*, 1994.
5. G. K. Thiruvathukal. Toward Scalable Parallel Software: An Active Object Model and Library for Parallel Processing. In *First International Conference on Parallel Processing*, 1994.
6. G. K. Thiruvathukal, L. S. Thomas, and A. T. Korczynski. Reflective Remote Method Invocation. In *ACM Java Grande*, February 1998.
7. G. K. Thiruvathukal, B. Cameron, L. Oliveira, and J. Shafae. Invited Talk: The Computational Neighborhood. In *International Conference on Supercomputing (ICS), Workshop on Java*, 1999.
8. X. Shen, W. Liao, A. Choudhary, G. Memik, M. Kandemir, S. More, G. Thiruvathukal, and A. Singh. A Novel Application Development Environment for Large-Scale Scientific Computations. In *International Conference on Supercomputing (ICS)*, 1999.
9. *Java Grande Forum Report: Making Java Work for High-End Computing*. <http://javagrande.org>, 2000.
10. X. Shen, G. K. Thiruvathukal, W. Liao, A. Choudhary, and A. Singh. A Java Graphical User Interface for Large-Scale Scientific Computations in Distributed Systems. In *High Performance Computing Asia*, 2000.
11. W. keng Liao, A. Choudhary, K. Coloma, G. K. Thiruvathukal, L. Ward, E. Russell, and N. Pundit. Scalable Implementations of MPI Atomicity for Concurrent Overlapping I/O. In *International Conference on Parallel Processing*, 2003.
12. Benjamin Gonzalez and George K. Thiruvathukal, *The Hydra Filesystem: A Distributed Storage Framework*, In *Proceedings of Linux Clusters International*, 2006.
13. Peter Aarestad, Avery Ching, Alok N. Choudhary, and George K. Thiruvathukal, *Scalable Approaches for Supporting MPI-IO Atomicity*, In *Proceedings of CCGrid*, 2006.
14. N. Mehta, Y. Kanitkar, K. Läufer, and G. K. Thiruvathukal, A Model-Driven Approach to Job/Task Composition in Cluster Computing, in *Proceedings of IPDPS Workshop on Java Components for Parallelism, Distribution, and Concurrency*, 2007.
15. S. Herr, K. Läufer, P. Shafae, G. K. Thiruvathukal, and G. Wirtz, Combining SOA and BPM Technologies for Cross-System Process Automation, In *Proceedings of SEKE*, 2008.
16. M. Bone, K. Läufer, P. Nabicht, and G. K. Thiruvathukal, Taming XML: Objects First, Then Markup. In *Proceedings of IEEE EIT*, Ames, Iowa, 2008.
17. V. Kindratenko, G. K. Thiruvathukal, S. Gottlieb (guest editors), High-Performance Computing Applications on Novel Architectures, *IEEE Computing in Science & Engineering*, November 2008, pp. 13-15, 2008.

Other Journal Publications

1. G. K. Thiruvathukal. The Middle Ages: Enabling Java for Computational Science. *IEEE Computing in Science and Engineering*, January 2002.
2. G. K. Thiruvathukal. XML in Computational Science. *Computing in Science and Engineering*, 6(1):74-80, January/February 2004.
3. G. K. Thiruvathukal and K. Läufer. Natural XML for Data Binding, Processing, and Persistence. *Computing in Science and Engineering*, 6(2):86-92, March/April 2004.
4. G. K. Thiruvathukal and K. Läufer. Plone and Content Management. *Computing in Science and Engineering*, 6(4):88-95, July/August 2004.
5. G. K. Thiruvathukal. Gentoo Linux: The Next Generation of Linux. *Computing in Science and Engineering*, 6(5):66-74, September/October 2004.
6. G. K. Thiruvathukal. Guest Editor's Introduction: Cluster Computing. *Computing in Science and Engineering*, 7(2):11-13, March/April 2005.
7. G. K. Thiruvathukal, Home Networking Issue, *Computing in Science and Engineering*, March/April 2006 (to appear).
8. G. K. Thiruvathukal, K. Läufer, and B. González. Unit Testing Considered Useful. *IEEE Computing in Science & Engineering*, 8(6):76-87, 2006.
9. G. K. Thiruvathukal, Project Hosting: Expanding the Scientific Programmer's Toolbox, *IEEE Computing in Science and Engineering Magazine*, pp. 70-75, March 2007.
10. J. Kaylor and G. K. Thiruvathukal, A Virtual Computing Laboratory, March 2008, pp. 65-69, 2008.
11. K. Läufer, G. K. Thiruvathukal, and B. González. A hike through post-EJB J2EE web application architecture, part III. *IEEE Computing in Science & Engineering*, 9(1):82-95, 2007.
12. K. Läufer and G. K. Thiruvathukal. What I Did on My Summer Vacation — Dude, You're Getting VoIP: Moving Past POTS. *IEEE Computing in Science & Engineering*, 10(6):76-81, 2008.
13. B. Feiereisen and G. K. Thiruvathukal, At Issue: CISE Magazine and the Web, March 2008, pp. 60-64, 2008.
14. K. Läufer, G. K. Thiruvathukal, R. Nishimura, and C. Ramírez Martínez-Eiroa. Putting a Slug to Work. *IEEE Computing in Science & Engineering*, 11(2), 2009, to appear.

Technical Reports

1. G. K. Thiruvathukal, U. Verun, R. Fuja, and T. Curry. *Apt Compiler Toolkit*.
<http://apt.googlecode.com/>
2. G. K. Thiruvathukal (Editor), *Java Grande Forum Report: Making Java Work for High-End Computing*.
<http://www.javagrande.org>.
3. A. N. Choudhary and G. K. Thiruvathukal. *Cluster Based Repositories and Analysis*. Technical report, Nimkathana Corporation, 2003, Available from:
<http://www.stormingmedia.us/20/2000/A200024.html>.
4. G. K. Thiruvathukal. *Ad Hoc Human Interaction Networks*. Technical report, Nimkathana Corporation, 2004, Available from <http://www.stormingmedia.us/66/6646/A664614.html>.

Public Software Releases

1. <http://hpjpc.googlecode.com/>, High-Performance Java Platform Computing Book Source Code (with T. W. Christopher)
2. <http://betterxml.googlecode.com/>, Better XML Framework for Straightforward XML data binding and persistence (with M. Bone, K. Läufer, and P. Nabicht)
3. <http://citep.googlecode.com/>, Web-based free/open source business accounting software (with many collaborators)
4. <http://st-hec.googlecode.com/>, Source code for the Hydra filesystem and distributed lockserver (with B. Gonzalez, P. Aarestad, and A. Ching)
5. <http://neighborhood.googlecode.com/>, A Java framework for cluster and P2P computing (with M. Bone, N. Mehta, P. Shafae, and K. Läufer)
6. <http://slither.googlecode.com/>, A lightweight Python web programming framework (with T. W. Christopher and P. Shafae)
7. <http://vclaboratory.googlecode.com/>, A framework for maintaining laboratory virtual machine images that we use to provision the Free/Open Source laboratory in the CS department at Loyola University (with J. Kaylor)
8. <http://olfs.googlecode.com/>, A layered filesystem that supports versioning and live updating (with J. Kaylor and K. Läufer)

3 Curriculum Development

- COMP 111, History of Computing: An introductory course in the core curriculum (Historical Knowledge) at Loyola that is open to all students and counts for history credit.
- COMP 339/439: Distributed Systems: An advanced (senior and graduate) course on distributed computing with a strong project/capstone component.
- COMP 388/412: Free/Open Source Practicum: An advanced course where students learn software engineering through the eyes of free/open source software. Students work on actual FOSS projects or propose one of their own.
- COMP 336/436: Markup Languages and Applications: An advanced course on XML and its component technologies, which also uses my own XML frameworks as part of the course content (from the Google Code project, <http://betterxml.googlecode.com/>).

4 Academic Grants and Other Extramural Funding

1. W. Honig, K. Läufer, and G. K. Thiruvathukal. Learning the Wonders of Computing with Wireless Collaboration. HP Technology for Teaching Grant #1900784, \$68,000.
2. G. K. Thiruvathukal (PI), C. Sekharan (co-PI), and K. Läufer (senior personnel). ITR: The Community Information Technology Entrepreneurship Project. National Science Foundation, Information Technology Research (ITR) program, Grant #0205652, \$1,034,500; 2002–2005.
3. K. Läufer (PI) and George K. Thiruvathukal. A multi-platform application suite for enhancing South Asian language pedagogy. South Asia Language Resource Center (SALRC) Mini-Grant, \$5,000; 2004–2005.

4. G. K. Thiruvathukal, Donation for Free/Open Source Laboratory, Hostway Corporation, \$55,000 (cash) and \$7,500 (equipment, in-kind).
5. Jerry Sanders (PI), Bryan Pickett (co-PI), Chandra N. Sekharan (co-PI), George K. Thiruvathukal (co-PI), and William A. Yost (co-PI). HPNC: HPNC for Science Research at Loyola University Chicago, \$175,000, ANI-0228926, 2002-2004.
6. Alok N. Choudhary, and M. T. Kandemir, and G. K. Thiruvathukal, Collaborative Proposal: Scalable Technologies for High-End Computing, \$72,433, CCF-0444197, 2004-2007.
7. H. Laten, G. K. Thiruvathukal, and T. E. O'Brien, REU Site: Integrated Cross-Disciplinary Summer Program in Bioinformatics, \$292,412.
8. G. K. Thiruvathukal, Ad Hoc Humint Networks for Assymmetric Threat Surveillance, DARPA SBIR Phase I Grant, DAAH01-03-C-R048, \$100,000, 2002-2003.

5 Professional and University Service

This section lists my involvement in various areas of service, including professional, university, college, department and community service.

Peer Reviewing/Conference Committees

- *Organizing Committee*, ACM Symposium on Structured Document Engineering 2005
- *Program Committee*, IPDPS Workshop on Java for High-Performance Computing (1999-2005)
- *Program Committee*, ACM Symposium on Structured Document Engineering (2002-2004)
- *Program Committee*, High-Performance Computing and Networking (HPCN) 2001 (Program Committee)
- *Co-Chair*, High-Performance Computing and Networking (HPCN) 2001 Workshop on Java
- *Tutorials Committee*, Supercomputing (SC) 2000
- Program Committee and Registration Chair, ACM Java Grande 1998

Other Professional Service

- *Editorial Board*, IEEE Computing Now, 2008-Present, Regular blogger for IEEE's new online portal.
- Associate Editor, CISE Magazine, 2008-Present.
- *Department Editor*, CISE Magazine, 2004-Present, Regular columnist and co-editor with Paul Dubois of the Scientific Programming column.
- *Guest Editor*, CISE Magazine, March/April 2005, Special Issue on Cluster Computing.
- *Secretary General*, Java Grande Forum, 1997-2000, The Java Grande Forum created the ACM Java Grande Conference Series and played a significant role in crafting recommendations to Sun on Java language improvements in the areas of numerics, concurrency, and distributed computing.

University Service

- *Academic Technologies Committee*, College of Arts and Sciences Representative, 2008-2009.
- *Awards Committee Chairperson*, Council of Graduate Programs, 2004-2005
- *Chair Elect*, Council of Graduate Programs, 2005-2006
- *Chair*, Council of Graduate Programs, 2006-2007 (and Past Chair, 2007-2008)
- Search Committee, Bioinformatics Faculty Hire, AY 2007-2008, which resulted in the hire of Dr. Catherine Putonti in CS and Biology.
- Search Committee, Svaglic Endowed Chair for English, AY 2008-2009, which resulted in the hire of Dr. Peter Shillingsburg in English.
- Planning Committee, Center for Textual Studies, AY 2008-2009.
- Faculty Advisor, Free/Libre and Open Source Software at Loyola, <http://www.fossal.org>, AY 2008-2009.

Department Service

- Undergraduate Program Director, Spring 2004
- Graduate Program Director, Summer 2004–Present
- Undergraduate Curriculum Reform Initiative, 2004–Present
- Graduate Curriculum Reform Initiative, 2004–Present
- Water Tower Campus Planning Committee, 2004
- Computing Committee Chairperson and Laboratory Director, 2003–Present
- ACM Chapter Advisor, 2004-2005