

Ionut E. Iacob

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Statesboro, GA 30460

EDUCATION **Fall 2001 - Fall 2005**
Ph.D., Computer Science (November 2005), GPA 4.0
Department of Computer Science, University of Kentucky
• Dissertation Topic: “Algorithms for Management of Document-centric XML Data”
Fall 2000 - Spring 2002
M.S., Mathematics (May 2002), GPA 4.0
Department of Mathematics, University of Kentucky
Fall 1988 - Summer 1993
5 year degree in Electrical Engineering (July 1993), GPA 9.50/10
University ”Politehnica” of Bucharest, Bucharest, Romania

RESEARCH INTERESTS Semistructured, NoSQL and graph databases, query languages, algorithms and complexity, programming languages, discrete mathematics.

EXPERIENCE **August, 2016 – present: Assistant Professor, Department of Mathematical Sciences, Georgia Southern University.**
August, 2011 – August, 2016: Lecturer, Department of Mathematical Sciences, Georgia Southern University. Duties: teaching (Analysis I, Mathematical Structures, Calculus I and II, Linear Algebra, College Algebra, Trigonometry, Survey of Calculus, Discrete Mathematics, Pre-Calculus, Web Applications Design and Development), research, and service.
August, 2007 – August, 2011: Temporary Assistant Professor, Department of Mathematical Sciences, Georgia Southern University. Duties: teaching (College Algebra, Trigonometry, Introduction to Java Programming, Survey of Calculus, Discrete Mathematics, Pre-Calculus), research, and service.
July, 2006 - April, 2007: Co-principal investigator and software architect for the EPPT project (University of Kentucky), funded by Andrew W. Mellon Foundation.
Spring 2006: - Co-principal investigator for the Electronic Boethius project (University of Kentucky), funded by NEH and Andrew W. Mellon Foundation.
- Part-time instructor, Department of Mathematics and Statistics, University of North Carolina Wilmington.
Fall 2005: Part-time instructor, Department of Mathematics and Statistics and Department of Computer Science, University of North Carolina

Wilmington. Primary instructor for Basic Calculus I and Introduction to Computing and Computer Applications.

July, 2001 - July, 2005: Research Assistant for Research in Computing for Humanities, University of Kentucky. My research was supported by the “Electronic Boethius Project”, sponsored by NEH, the Andrew W. Mellon Foundation, and the Center for Computational Sciences (CCS) at the University of Kentucky; and by the “ARCHway Project”, sponsored by NSF-ITR and CCS. Duties included research in computing for humanities, XML databases, querying and indexing document-centric XML data, image-text integration for electronic editions, Java and C++ programming.

August, 2000 - May, 2001: Teaching Assistant, Department of Mathematics – University of Kentucky

Conducted recitations in Calculus I and II. Duties at various times have included a guest lecture in Calculus I, office hours, grading, and proctoring.

June, 1996 - June, 2000: Assistant Professor, Department of Remote Control and Electronics in Transports – University ”Politehnica” of Bucharest, Romania

October, 1994 - June, 1996: Instructor, University ”Politehnica” of Bucharest

Duties at various time included laboratories, recitations, and lectures at undergraduate level. I taught a variety of engineering and computer science disciplines: Information Theory, Integrated Circuits, Operating Systems, Programming Languages, and Computer Networks. I supervised more than 15 undergraduate student capstone projects.

July, 1993 - September, 1994: Research engineer, Romanian Railway Authority (AFER), Bucharest, Romania. Conducted research in remote-control systems for railways.

HONORS,
AWARDS,
GRANTS

- Summer incentive awards (\$2500) from the Dean of College of Science and Mathematics (support for preparing materials for a new course: Intro to Data Analytics with R; support for improving Math Tournament related activities and grant submission), June 2016.
- Faculty Development Award for Professional Travel (\$2000, Fall 2015), to support presentation at DSDIS 2015 Conference, Sydney, Australia.
- “Developing and Teaching Online Courses” certificate, Georgia Southern University, November 2015.
- Best paper award: “A quantitative risk analysis framework for bow-tie models”, *7th Electronics, Computers and Artificial Intelligence (ECAI 2015)*, Bucharest, June 25–27, 2015.
- “Applying the Quality Matters Rubric” certificate, April 2015.
- Summer incentive award (\$1000) from the Dean of College of Science and Mathematics (to support the writing of course materials for MATH2130 Discrete Mathematics), June 2014.

- Co-principal investigator (with Kevin Kiernan, PI) for the EPPT project, Andrew W. Mellon Foundation grant (Duration: July 2006 – April 2007).
- Co-principal investigator (with Kevin Kiernan, PI) for the Electronic Boethius project, NEH and Andrew W. Mellon Foundation grant (Duration: Spring 2006).
- T. Marshall Hahn Sr. Award for Professional Travel: Summer 2003, Summer 2005.
- Student Travel Support from Graduate School Fellowship Office, University of Kentucky: Spring 2002, Spring 2003, Summer 2004, Summer 2005.
- University Graduate Student Development Award, University of Kentucky: Fall 2000.

PUBLICATIONS

Book Sections

- “The Electronic Beowulf: catching up with technology and looking to the future”, Ionut E. Iacob, *festschrift honoring Kevin Kiernan’s contributions to Digital Humanities*, in preparation, 2016.
- “The V-flex, Triangle Orientation, and Catalan Numbers in Hexaflexagons”, Ionut E. Iacob, T. Bruce McLean, and Hua Wang, *Martin Gardner in the Twenty-First Century*, by Michael Henle and Brian Hopkins (editors), published by MAA, 2012.

Refereed Journal Publications

- “Generalized XQuery queries for graph databases”, Ionut E. Iacob, submitted.
- “About general order regular flexagons”, Ionut E. Iacob, T. Bruce McLean, and Hua Wang, *Ars Combinatoria*, accepted, 2015.
- “The V-flex, Triangle Orientation, and Catalan Numbers in Hexaflexagons”, Ionut E. Iacob, T. Bruce McLean, and Hua Wang, *The College Mathematics Journal*, 43(1) 2012.
- “Multihierarchical XML Markup of Image-based Electronic Editions”, Alex Dekhtyar, Ionut E. Iacob, Jerzy W. Jaromczyk, Neil Moore, Dorothy Carr Porter, *International Journal on Digital Libraries (IJDL)*, 6(1), 55–69, 2006.
- “A Framework For Management of Concurrent XML Markup”, Alex Dekhtyar, Ionut Emil Iacob, *Special Issue Data and Knowledge Engineering* 52 (2005), 185 – 208.
- “The ARCHway Project: Architecture for Research in Computing for Humanities through Research, Teaching and Learning”, Kevin Kiernan, Jerzy W. Jaromczyk, Alex Dekhtyar, Dorothy Carr Porter, Kennteh Hawley, Sandeep Bodapati, Ionut Emil Iacob, *Literary and Linguistic Computing*, 20 (2005), 69 – 88.

Refereed Conference Publications

- “Scalable Data Representation in Risk Management Information Systems Using an XQuery Extension”, Ionut E. Iacob and Alex Apostolou, *IEEE International Conference on Data Science and Data Intensive Systems (DSDIS 2015)*, Sydney, Australia, December 11-13, 2015.
- “A quantitative risk analysis framework for bow-tie models”, Ionut E. Iacob and Alex Apostolou, *7th Electronics, Computers and Artificial Intelligence (ECAI*

2015), Bucharest, June 25-27, 2015 (best paper award).

- “Multihierarchical XQuery for Document-Centric XML”, Ionut E. Iacob and Alex Dekhtyar, *XIME-P*, Chicago, June 30, 2006.
- “XML Views for Electronic Editions”, Ionut E. Iacob and Alex Dekhtyar, *JCDL 2006*, June 11-15, Chapel Hill, NC.
- “On Potential Validity of Document-Centric XML Documents”, Ionut E. Iacob, Alex Dekhtyar, and Michael I. Dekhtyar, *XSDM 2006*, April 7, Atlanta, GA.
- “Searching Multi-Hierarchical XML Documents: the Case of Fragmentation”, Alex Dekhtyar, Ionut E. Iacob, and Srikanth Methuku, *Proceedings, 16th International Conference on Database and Expert Systems Applications, DEXA '05*, LNCS 3588, pp. 576 – 585, August 2005, Copenhagen, Denmark.
- “Towards a Query Language for Multihierarchical XML: Revisiting XPath”, Ionut Emil Iacob and Alex Dekhtyar, *Proceedings, WebDB*, 2005, pp. 49–54.
- “xTagger: a New Approach to Authoring Document-centric XML”, Ionut E. Iacob and Alex Dekhtyar, *Joint Conference on Digital Libraries (JCDL)*, 2005, June 7-11, Denver, CO.
- “Building Tools for Image-Based Electronic Editions”, Ionut E. Iacob, Alex Dekhtyar, *International ACH-ALLC Conference*, 2005, June 15 -18, Victoria, BC, Canada.
- “Concurrent Markup Hierarchies: a Computer Science Approach”, Ionut E. Iacob, Alex Dekhtyar, *International ACH-ALLC Conference*, 2005, June 15 -18, Victoria, BC, Canada.
- “Parsing Concurrent XML”, Ionut Emil Iacob, Alex Dekhtyar, Kazuyo Kaneko, *Proceedings, 6th ACM International Workshop on Web Information and Data Management (WIDM 2004)*, November 12-13, 2004, Washington, DC.
- “Database Support for Image-based Electronic Editions”, Alex Dekhtyar, Ionut E. Iacob, Jerzy W. Jaromczyk, Kevin Kiernan, Neil Moore, Dorothy Carr Porter. *Proceedings, 10th International Workshop on Multimedia Information Systems (MIS 2004)*, August 25-27, College Park, MD, pp. 147–156.
- “Checking Potential Validity of XML Documents”, Ionut Emil Iacob, Alex Dekhtyar, Michael I. Dekhtyar, *Proceedings, Seventh International Workshop on the Web and Databases (WebDB)*, 2004, pp. 91–96.
- “A Framework For Management of Concurrent XML Markup”, Alex Dekhtyar, Ionut Emil Iacob, *International Workshop on XML Schema and Data Management (XSDM 2003)*, LNCS, Vol. 2814, pp. 311–322.
- “Management of Data For Building Electronic Editions of Historic Manuscripts”, Alex Dekhtyar, Ionut Emil Iacob, in *Proceedings, International ACH/ALLC Conference*, Athens, Georgia, May 2003, pp. 11–13.

Software Demos

- “Extended XQuery for Digital Libraries”, Alex Dekhtyar, Ionut E. Iacob, Kevin Kiernan, and Dorothy C. Porter, demo, *JCDL 2006*, June 11-15, Chapel Hill, NC.
- “Processing XML documents with Overlapping Hierarchies”, Ionut E. Iacob and Alex Dekhtyar, demo, *Joint Conference on Digital Libraries (JCDL)*, 2005, June 7-11, Denver, CO.
- “Building Image-based Electronic Editions using the Edition Production Technol-

ogy”, Alex Dekhtyar, Ionut E. Iacob, Jerzy Jaromczyk, Kevin Kiernan, Neil Moore, and Dorothy C. Porter, demo, *Joint Conference on Digital Libraries (JCDL)*, 2005, June 7-11, Denver, CO.

- “A Framework for Processing Complex Document-centric XML with Overlapping Structures”, Ionut E. Iacob, Alex Dekhtyar, demo, *ACM SIGMOD*, 2005, June 13-16, Baltimore, MD.
- “Edition Production Technology: an Eclipse based platform for building Image-Based Electronic Editions”, Ionut E. Iacob, Alex Dekhtyar, Kevin Kiernan, Neil Moore, Dorothy Carr Porter, software demo, *International ACH-ALLC Conference*, 2005, June 15 -18, Victoria, BC, Canada.

Invited Publications

- “Processing XML Documents with Overlapping Hierarchies”, Ionut E. Iacob, Alex Dekhtyar, *IEEE Technical Committee on Digital Libraries Bulletin*, Vol 2, Issue 1, 2005 (an html version of the JCDL-2005 demo).
- “Building Image-based Electronic Editions using the Edition Production Technology”, Alex Dekhtyar, Ionut E. Iacob, Jerzy W. Jaromczyk, Kevin Kiernan, Neil Moore, Dorothy Carr Porter, *IEEE Technical Committee on Digital Libraries Bulletin*, Vol 2, Issue 1, 2005 (an html version of the JCDL-2005 demo).
- “Edition Production Technology (EPT) and the ARCHway Project”. Kevin Kiernan, Alex Dekhtyar, Jerzy W. Jaromczyk, Dorothy Carr Porter, Ionut E. Iacob, *DigiCULT Newsletter*, 2004.

Electronic Editions

- “The Electronic Beowulf – Fourth Edition” (online electronic edition), Kevin Kiernan (editor) and Ionut Emil Iacob, *British Library and University of Kentucky*, <http://ebeowulf.uky.edu>, 2015.
- “The Electronic Beowulf – Third Edition” (electronic edition), Kevin Kiernan (editor) and Ionut Emil Iacob, *British Library Publications*, 2011.
- “The Electronic Beowulf” (electronic edition), Kevin Kiernan (editor) with Andrew Prescott, Elizabeth Solopova, C.J. Yuan, David French, Michael Ellis, Linda Cantara, and Ionut Emil Iacob, 2-CD set Version 2.0, *British Library Publications*, 2004.

Technical Reports

- “XPath Extension for Querying Concurrent XML Markup”, Ionut E. Iacob, Alex Dekhtyar, Wenzhong Zhao. *University of Kentucky, Department of Computer Science, Technical Report TR394-04*, February 2004.
- “MinBAD: The minimum-biased anisotropic diffusion for noise removal”, Seongjai Kim, Ionut Emil Iacob, and Matthew Tynan. *University of Kentucky, Department of Mathematics, Technical Report 2002-06*, 2002.

CONFERENCES,
PRESENTATIONS,
TRAINING

- “Optimal Risk Management Using Simulation in Bowtie Models”, *16th International Conference on Operational Research (EURO 2016)*, Poznan, Poland, July 3-6, 2016.

- “Monte Carlo Simulations for Risk Analysis Systems using Bowtie Models”, *28th European Conference on Operational Research (KOI 2016)*, Osijek, Croatia, September 27-29, 2016.
- “Scalable Data Representation in Risk Management Information Systems Using an XQuery Extension”, *IEEE International Conference on Data Science and Data Intensive Systems (DSDIS 2015)*, Sydney, Australia, December 11-13, 2015.
- “Searching Graph Data with an application in Risk Management Systems”, *Discrete Mathematics Seminar*, Department of Mathematics, Georgia Southern University, December 4, 2015.
- Training Course: “Folio Foundations – Gradebook and Grading”, Georgia Southern University, September 29, 2015.
- Training Course: “Folio Foundations – Build a Learning Module”, Georgia Southern University, September 29, 2015.
- Conference attended: “International Conference in Homological Algebra”, Lexington, KY, July 22–24, 2015.
- “A quantitative risk analysis framework for bow-tie models”, *7th Electronics, Computers and Artificial Intelligence (ECAI 2015)*, Bucharest, June 25–27, 2015.
- Conference attended: “MAA Southeastern Section Spring 2015 Meeting”, University of North Carolina Wilmington, NC, March 13–14, 2015.
- “The Technology of Electronic Beowulf: Past, Present, and Future”, 49th International Congress on Medieval Studies, Western Michigan University, Kalamazoo, MI, May 8–11, 2014. (Invited presentation for the “Anglo-Saxon Manuscripts” session, honoring Kevin Kiernan.)
- “A Deterministic Finite Automaton for determining triangle orientation in a General Order Regular Flexagon”, Gathering 4 Gardner, Atlanta, GA, March 19 – 23, 2014.
- “Searching Multihierarchical Relations and Applications”, Georgia Southern University, Department of Computer Science, March 15, 2013.
- “Using Eclipse for Android Application Development”, presentation, Georgia Southern University, March 29, 2013; part of an workshop for a student mobile app contest initiated by COSM.
- “About General Order Regular Flexagons”, MAA Southeastern Section, Ninetieth Annual Meeting, University of Alabama Tuscaloosa, Alabama, 1 - 2 April 2011.
- “Using XQuery for searching complex document-centric XML”, Department of Computer Science, California Polytechnic State University, May 21, 2009.
- “IBX: Image-Based XML for Digital Projects in the Humanities”, *Georgia Conference on Information Literacy*, Savannah, Georgia, October 3-4 , 2008.
- “Multi-hierarchical Document-centric XML”, *CS Seminar*, Computer Sciences Department, Georgia Southern University, February 25, 2008.
- “The Use of EPPT (Edition Production and Presentation Technology) for Preparing Electronic Editions of Manuscripts”, *Forty-Second International Congress on Medieval Studies*, Western Michigan University, Kalamazoo, 10-13 May 2007.
- “Edition Production and Presentation Technology (EPPT)”, invited presentation (with K. Kiernan), *Coalition for Networked Information (CNI): Spring 2007 CNI Task Force Meeting*, Phoenix, AZ, April 16-17, 2007.

- “Electronic Boethius and Edition Production and Presentation Technology”, invited presentation (with K. Kiernan), *Mellon All-Projects Meeting: Medieval Studies*, New York, January 24-26, 2007.
- “Edition Production and Presentation Technology”, invited presentation (with K. Kiernan), *The Johns Hopkins University / Milton S. Eisenhower Libraries*, Roman de la Rose Spring Workshop, March 27-29, 2006.
- “Management of Document-centric XML with Overlapping Structures”, invited presentation, *University of Maryland at College Park*, College Park, MD, June 13, 2005.
- “A Framework for Processing Complex Document-centric XML with Overlapping Structures”, *University of Kentucky - Center for Computational Sciences, Brownbag seminar*, Lexington, March, 2005.
- “Management of Document-centric concurrent XML markup”, *University of Kentucky - Center for Computational Sciences, Brownbag seminar*, Lexington, February 10, 2004.
- “Annual Report on The ARCHway Project: Architecture for Research in Computing for Humanities through Research, Teaching, and Learning”, with Kevin Kiernan, Alexander Dekhtyar, Jerzy W. Jaromczyk, *IDM 2003 Workshop on Information Retrieval and Databases: Synergies and Syntheses*, Seattle, WA, September 13-17, 2003.
- “Editing XML Documents: Principles and Implementation”, *University of Kentucky - Center for Computational Sciences, Brownbag seminar*, Lexington, March 25, 2003.
- “Building an Electronic Edition of Alfred’s Boethius”, *Thirty-Seventh International Congress on Medieval Studies*, Western Michigan University, Kalamazoo, 2-5 May 2002.
- “Electronic Editions Editor: a Tool for Producing, Searching and Documenting Electronic Editions”, *University of Kentucky - Center for Computational Sciences, Brownbag seminar*, Lexington, February 12, 2002.

SERVICE

- Mathematics Tournament Committee (2007 – present)
- Election Committee (2015 – present)
- Eagle Math-A-Mania tournament (2007 – 2011)
- Webmaster for math.georgiasouthern.edu, cosm.georgiasouthern.edu/math (2010 – present)
- Technology committee (2010 – 2014)
- Faculty Recorder (2011 – 2015)
- Search Committee (2014 – 2015)
- Faculty Senate alternate (2012 – 2013, 2014 – 2015)
- Medical/Dental Review Board (2012 – 2013)
- Student Recruitment Coordinator Committee (2012 – present)
- Graduate Student Thesis Committee (Fall 2011, Spring 2012, Spring 2014, Spring 2015)
- Undergraduate students advising (2010 – 2015)
- Session Chair “GreenCom2015 – Green Computing and Communications”, Sydney,

Australia, December 11–13, 2015.

- Program Committee for the International Conference on Database and Expert Systems Applications (DEXA) 2009, 2010, 2011, 2012, 2013, 2014, 2015, 2016, 2017.
- Graduate student Comprehensive Examination committee (May 2008).
- External reviewer: New Review of Hypermedia and Multimedia Journal (2009), XSDM 2005, AAA 2005, UAI 2005, Special Issue DKE 2005, XSDM 2006.
- Membership: ACM-SIGMOD, AMS, SIAM.
- Judge for the University of Kentucky Students Programming Contest (UKSPC03)

COMPUTER
SKILLS

- Languages: in-depth knowledge of Java and C++, C#, R, SQL, PHP, Javascript (jQuery, JQueryUI, Google Apps), XPath/XQuery, some use of Unix shell scripts, Matlab, HTML, CSS.
- Platforms, Frameworks, Databases: Eclipse, Netbeans, Visual Studio, iReport, JasperReports, Spring, Hibernate, WordPress, MySQL, SQL Server, Neo4j, Cassandra, Desire2Learn.
- Operating Systems: Windows, Unix/Linux, Mac OS X.