Kostadin Damevski

Vita
As of March 1^{st}, 2016

Personal Information

Name: Kostadin Damevski
Address: Department of Computer Science
401 West Main Street
Virginia Commonwealth University
Richmond, VA 23284
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Education

Ph.D.	2006	University of Utah	Computer Science
M.S	2002	University of Utah	Computer Science
B.S.	2000	University of Central Oklahoma	Computer Science

Professional Employment

Date	Position	Institution
August 2015 to *present*	Assistant Professor	Virginia Commonwealth University
May 2015 to August 2015 & May 2014 to August 2014	Research Consultant	ABB Corporate Research
August 2013 to May 2015	Associate Professor	Virginia State University
August 2008 to May 2013	Assistant Professor	Virginia State University
August 2006 to August 2008	Postdoctoral Research Associate	SCI Institute, University of Utah

Publications — Book Chapters

- Will Snipes, Emerson Murphy-Hill, Thomas Fritz, Mohsen Vakilian Kostadin Damevski, Anil R. Nair, David Shepherd. *A Practical Guide to Analyzing IDE Usage Data*. The Art and Science of Analyzing Software Data. *To Appear*
- Kostadin Damevski. *Tool Support for Efficient Programming of Graphics Processing Units*. Bridging Mathematics, Statistics, Engineering and Technology. Edited by Bourama Toni, Keith Williamson, Nasser Ghariban, Dawit Haile, and Zhifu Xie. Springer Proceedings in Mathematics and Statistics 24.
- Steven G. Parker, Kostadin Damevski, Ayla Khan, Ashwin Swaminathan, Chris R. Johnson. *The SCIJump Framework for Parallel and Distributed Scientific Computing*. In Advanced Computational Infrastructures for Parallel/Distributed Adaptive Applications. Edited by Manish Parashar, Xiaolin Li, and Sumir Chandra, Wiley Press, 2007
- Steven G. Parker, Keming Zhang, Kostadin Damevski, and Chris R. Johnson. *Integrating Component-Based Scientific Computing Software. In Parallel Processing For Scientific Computing*. SIAM book series in Software, Environments, and Tools 2005. Edited by Michael A. Heroux, Padma Raghavan, and Horst D. Simon

Publications — Refereed Journals

- K. Damevski, D. Shepherd, L. Pollock. "A Field Study of How Developers Locate Features in Source Code", *Journal of Empirical Software Engineering*, pp: 1-24, 2015. **Selected for Presentation at the International Conference of Software Engineering (ICSE'16)**
- J. Wang, K. Damevski, H. Chen. "Sensor Data Modeling and Validating for Wireless Soil Sensor Networks", *Journal of Computers and Electronics in Agriculture*, vol.112, pp.75-82, 2015.
- B. Altayeb, K. Damevski. "Utilizing and Enhancing Software Modeling Environments to Teach Mobile Application Design", *Journal of Computing Sciences in Colleges*, volume 28, issue 6, pp: 57-64. 2013.
- H. Chen, K. Damevski, W. Edwards. "Infusing Cyber-Physical Systems Concepts into Introductory Computer Science Courses", *Journal of Computing Sciences in Colleges*, volume 28, issue 6, pp: 26-34. 2013.
- K. Damevski,"Offline Contract Enforcement for High Performance Computing", *Journal of Concurrency and Computation: Practice and Experience*, volume 23, issue 13, pp: 1465-1473. 2010.
- F. Bertrand, R. Bramley, D. Bernholdt, J. Kohl, J. Larson, A. Sussman and K. Damevski, "Data Redistribution and Remote Method Invocation for Coupled Components", *Journal of Parallel and Distributed Computing*, volume 66, issue 7, pp: 931-946, 2006.
- Benjamin A. Allan, Robert Armstrong, David E. Bernholdt, Felipe Bertrand, Kenneth Chiu, Tamara L. Dahlgren, Kostadin Damevski, Wael R. Elwasif, Thomas G. W. Epperly, Madhusudhan Govindaraju, Daniel S. Katz, James A. Kohl, M anoj Krishnan, Gary Kumfert, J. Walter Larson, Sophia Lefantzi, Michael J. Lewis, Allen D. Malony, Lois C. McInnes, Jarek Nieplocha, Boyana Norris, Steven G. Parker, Jaideep Ray, Sameer

Shende, Therisa L. Windus, and Shujia Zhou, "A Component Architecture for High Performance Scientific Computing" *International Journal of High-Performance Computing Applications*, volume 20, issue 2, pp: 163-202, 2006.

- K. Damevski and S. Parker. "M-by-N Data Redistribution through Parallel Remote Method Invocation". *International Journal of High-Performance Computing Applications*, volume 19, issue 4, pp: 389-399, 2005.

Publications — Refereed Conferences

- K. Damevski, H. Chen, D. Shepherd, L. Pollock. "Interactive Exploration of Developer Interaction Traces using a Hidden Markov Model". *Proceedings of the 13th International Conference on Mining Software Repositories (MSR'16)*, Austin, TX. *(Acceptance Rate = 27%)*

- C. Corley, K. Damevski, N. Kraft. "Exploring the Use of Deep Learning for Feature Location". *Proceedings of the International Conference on Software Maintenance and Evolution (ICSME 2015) Early Research Achievements (ERA) Track*, Bremen, Germany. *(Acceptance Rate = 35%)*

- D. Shepherd, K. Damevski, L. Pollock, "How and When to Transfer Software Engineering Research via Extensions". *Proceedings of the International Conference on Software Engineering (ICSE 2015) – Software Engineering in Practice (SEIP) Track*, Florence, Italy. *(Acceptance Rate = 50%)*.

- K. Damevski, D. Shepherd, L. Pollock. "Scaling up Evaluation of Code Search Tools through Developer Usage Metrics". *Proceedings of the 22nd IEEE International Conference on Software Analysis, Evolution, and Reengineering (SANER 2015)*, Montreal, Canada. *(Acceptance Rate = 27%)*.

- X. Ge, D. Shepherd, K. Damevski, E. Murphy-Hill. "How Developers Use Multi-Recommendation System in Local Code Search". *Proceedings of the IEEE Symposium on Visual Languages and Human-Centric Computing (VL/HCC 2014)*, Melbourne, Australia. *(Acceptance Rate = 30%)*. **Best Long Paper Award**

- H. Chen, K. Damevski. "A Teaching Model for Development of Sensor-Driven Mobile Applications". *Proceedings of the ACM Conference on Inovation and Technology in Computer Science Education (ITiCSE 2014)*, Uppsala, Sweden, 2014. *(Acceptance Rate = 35%)*

- K. Damevski, D. Shepherd, L. Pollock. "A Case Study of Paired Interleaving for Evaluating Code Search Techniques". *Proceedings of the IEEE Conference on Software Maintenance and Reengineering and Working Conference on Reverse Engineering (CSMR-WCRE 2014)*, Antwerp, Belgium. 2014. *(Acceptance Rate = 31%)*

- X. Ge, D. Shepherd, K. Damevski, E. Murphy-Hill. "How the Sando Search Tool Recommends Queries", *Proceedings of the IEEE Conference on Software Maintenance and Reengineering - Working Conference on Reverse Engineering (CSMR-WCRE 2014), Tool Demonstration Track*, Antwerp, Belgium, 2014. *(Acceptance Rate = 50%)*

- K. Damevski, B. Altayeb, H. Chen, D. Walter. "Teaching Cyber-Physical Systems to Computer Scientists via Modeling and Verification". *Proceeding of 44th Annual SIGCSE Technical Symposium on Computer Science Education (SIGCSE 2013)*, Denver, CO. 2013. *(Acceptance Rate = 37.8%)*

- D. Shepherd, K. Damevski, B. Ropski, T. Fritz. "Sando: An Extensible Local Code Search Framework". *Proceedings of the 20th International Symposium on the Foundations of Software Engineering (FSE 2012), Tool Demonstration Track*, Raleigh, North Carolina, 2012.

- J. Wang, K. Damevski, H. Chen. "Model Refinement and Data Filtering in High-Tunnel Greenhouse Sensor Network" *Proceedings of 7th ACM International Symposium on QoS and Security for Wireless and Mobile Networks (Q2SWINET 2011)*, Miami Beach, Florida, 2011.

- J. Wang, H. Chen, K. Damevski, J. Liu, "Mobility-tolerant, Efficient Multicast in Mobile Cloud Applications," *Proceedings of the 4th International ICST Conference on Mobile Wireless Middleware, Operating Systems, and Applications (MOBILWARE 2011)*, London, UK, 2011.

- K. Damevski, H. Chen. "Automated Provenance Collection for CCA Component Assemblies". *Proceedings of the 9th International Conference on Computational Science (ICCS 2009) (main track)*, Baton Rouge, Louisiana, 2009.

- S. Yau, K. Damevski, V. Karamcheti, S. Parker, D. Zorin. "Application-Aware Management of Parallel Simulation Collections". *Proceedings of the 14th ACM SIGPLAN Symposium on Principles and Practice of Parallel Programming (PPOPP 2009)*, Raleigh, North Carolina, 2009.

- S. Yau, K. Damevski, D. Zorin, V. Karamcheti, S. Parker. "Result Reuse in Design Space Exploration: A Study in System Support for Interactive Parallel Computing". *Proceedings of the 22 International Parallel and Distributed Processing Symposium (IPDPS 2008)*, Miami, Florida, 2008.

- K. Damevski, A. Swaminathan, S. Parker. "Highly Scalable Distributed Component Framework for Scientific Computing". *Proceedings of the 3rd International Conference on High Performance Computing and Communication (HPCC 2007)*, Houston, Texas, 2007.

- K. Damevski, A. Swaminathan, S. Parker. "CCALoop: Scalable Design of a Distributed Component Framework". *Proceedings of the 16th IEEE International Symposium on High Performance Distributed Computing (HPDC 2007) (Short Paper)*, Monterey, California, 2007.

- F. Bertrand, R. Bramley, K. Damevski, D. Bernholdt, J. Kohl, J. Larson and A. Sussman "Data Redistribution and Remote Method Invocation in Parallel Component Architectures". *Proceedings of the 19th International Parallel and Distributed Processing Symposium (IPDPS 2005)*, Denver, Colorado, 2005. **Best Paper Award**

- K. Damevski and S. Parker. "Imprecise Exceptions in Distributed Parallel Components". *Proceedings of the 9th European Conference on Parallel Computing (EURO-PAR 2004)*, Piza, Italy, 2004.

- K. Damevski, and S. Parker. "Parallel Remote Method Invocation and M-by-N Data Redistribution". *Proceedings of the 4th Los Alamos Computer Science Institute Symposium (LACSI 2003)*, Santa Fe, New Mexico, 2003.

Publications — Refereed Workshops

- K. Damevski, D. Shepherd, N. Kraft, L. Pollock. "Supporting Developers in Porting Software via Combined Textual and Structural Analysis of Software Artifacts". Computational Science and Engineering Software Sustainability and Productivity Challenges (CSESSP Challenges) - Position Paper, Rockville, MD, 2015.
- K. Damevski, D. Shepherd, L. Pollock. "An Implicit Feedback-based Approach to the Evaluation of Text Analysis Techniques for Software Engineering". *Proceedings of the 1st International Workshop on on the Next Five Years of Text Analysis in Software Maintenance (TAinSM2012)*, Riva de Garda, Italy, 2012.
- K. Damevski, M. Muralimanohar. "A Refactoring Tool to Extract GPU Kernels". *Proceedings of the 2011 Workshop on Refactoring Tools (WRT 2011), in conjuction with the International Conference on Software Engineering (ICSE 2011)*, Honolulu, Hawaii, 2011.
- K. Damevski, T. Dahlgren. "Parallel Object Contracts for High Performance Computing". *Proceedings of the 2011 Workshop on High-Level Programming Models and Supportive Environments (HIPS 2011), in conjuction with the IEEE International Parallel and Distributed Processing Symposium (IPDPS 2011)*, Anchorage, Alaska, 2011.
- K. Damevski. "Expressing Measurement Units in Interfaces for Scientific Component Software". *Proceedings of the 2009 Workshop on Component-Based High Performance Computing, in conjuction with the 22nd Supercomputing Conference (SC09)*, Portland, Oregon, 2009.
- K. Damevski, H. Chen, T. Dahlgren. "Reducing Component Contract Overhead by Offloading Enforcement". *Proceedings of the 2009 Workshop on Component-Based High Performance Computing, in conjuction with the 22nd Supercomputing Conference (SC09)*, Portland, Oregon, 2009.
- K. Damevski, A. Khan, S. Parker. "Scientific Workflows and Components: Together at Last". *Proceedings of 3rd Workshop on Component-Based High Performance Computing (CBHPC 2008)*, Karlsruhe, Germany, 2008.
- K. Damevski, K. Zhang, S. Parker. "Practical Parallel Remote Method Invocation for the Babel Compiler". *Proceedings of the joint HPC-GECO/CompFrame Workshop*, Montreal, Canada, 2007
- K. Damevski. "Generating Bridges Between Heterogeneous Component Models". *Proceedings of the 7th Generative Programming and Component Engineering (GPCE) Young Researchers Workshop*, Talinn, Estonia, 2005.
- K. Zhang, K. Damevski, V. Venkatachalapathy, and S. Parker. "SCIRun2: A CCA Framework for High Performance Computing". *Proceedings of the 9th International Workshop on High-Level Parallel Programming Models and Supportive Environments (HIPS 2004)*, 2004.

Thesis

- K. Damevski. "Component Model Interoperability for Scientific Computing" , *PhD Thesis*, 2006.
- K. Damevski. "Parallel Component Interaction using an IDL Compiler" , *MS Thesis*, 2002.

Courses Taught

- At Virginia Commonwealth University
  - *Software Engineering* – Fall 2015
- At Virginia State University
  - *Software Engineering (graduate & undergraduate)* – Fall 2009,2010,2011,2013, Spring 2014
  - *Senior Project* – Fall 2011,2012, Spring 2013,2014,2015
  - *Introduction to Computer Science* – Fall 2008,2009,2010, Spring 2009,2010
  - *Embedded Systems (graduate & undergraduate)* – Spring 2009,2010,2011, Fall 2012
  - *Operating Systems* – Spring 2008, 2013, 2014
  - *Parallel Algorithms* – Fall 2010, 2012, 2014
  - *Object Oriented Programming* – Spring 2009,2010
  - *Advanced Algorithms and Data Structures* – Fall 2011
  - *Computer Graphics* – Spring 2011
  - *Data Structures* – Spring 2013, 2014
  - *Introduction to Programming in C++* – Fall 2009
  - *Introduction to Problem Solving using Computers* – Fall 2008
  - *Introduction to Programming for Chemical and Life Science Engineers* – Fall 2007

Research Grants and Contracts

Past Support

Supporting Agency:	Commonwealth Center for Advanced Manufacturing
Total Costs:	$140,000
Title of Project:	G010 – Automated Defect Detection in Radiography
Duration:	6 months
Start Date:	04/21/2014
Principal Investigators:	Dawit Haile (PI), Hui Chen (Co-PI), Wei-Bang Chen (Co-PI), Pallant Ramsundar (Co-PI), **Kostadin Damevski (Co-PI)**

Supporting Agency:	Google, Inc.
Total Costs:	$10,000
Title of Project:	CS4HS: Teaching Computer Science using the Android Platform
Duration:	1 year
Start Date:	03/12/2013
Principal Investigators:	David Walter (PI), **Kostadin Damevski (Co-PI)**, Hui Chen (Co-PI),

Supporting Agency:	National Science Foundation
Total Costs:	$230,662
Title of Project:	MRI: Acquisition of Sensing and Computing Equipment for Smart High-Tunnel Greenhouses
Duration:	4 years
Start Date:	09/15/2010
Principal Investigators:	Hui Chen (PI), **Kostadin Damevski (Co-PI)**, Ju Wang (Co-PI), Ahmad Rafie (Co-PI), and Christopher Mullins (Co-PI)

Supporting Agency:	National Science Foundation
Total Costs:	$199,231
Title of Project:	TUES: Longevity-Oriented Curriculum Enhancement for Cyber-Physical Systems
Duration:	3 years
Start Date:	10/01/2011
Principal Investigators:	Hui Chen (PI), **Kostadin Damevski (Co-PI)**, Ju Wang (Co-PI), David Walter (Co-PI))

Supporting Agency:	Department of Energy
Total Costs:	$322,936 (VSU Share)
Title of Project:	Center for Technology for Advanced Scientific Component Software (TASCS)
Start Date:	05/15/2010 – 05/15/2012
Principal Investigators:	**Kostadin Damevski (Insitutional PI)** (with 4 other universities, 5 national labs, and a private company)

Supporting Agency:	National Science Foundation
Total Costs:	$16,000
Title of Project:	Research Experience for Undergraduates (REU) Supplement to NSF MRI Grant
Dates:	03/01/2011 – 03/01/2012
Principal Investigators:	Hui Chen (PI), **Kostadin Damevski (Co-PI)**, Ju Wang (Co-PI), Ahmad Rafie (Co-PI), and Christopher Mullins (Co-PI))

Supporting Agency:	NASA / Thurgood Marshall College Fund
Total Costs:	$130,000
Title of Project:	Developing High-Level Programming Abstractions for Hybrid Hardware Platforms
Dates:	09/01/2010 – 09/01/2011
Principal Investigators:	**Kostadin Damevski (PI)**

Doctoral Students, Thesis Advisor

- Manziba Akanda Nishi, *in progress, since Spring, 2016*

Masters Students, Thesis Advisor

- At Virginia State University
  - Marco Peterson, “Metamorphic Testing of Android Apps”. M.S. Thesis Advisor, Summer 2015.
  - Sudip Chakravorthy, “Automatic Generation of Human Readable Text Summaries Of C# Source Code in Natural Language”. M.S. Thesis Advisor, Spring 2014.
  - Badreldin Altayeb, “Introducing Cyber-Physical Systems to CS Majors Using Modeling”. M.S. Thesis Advisor, Spring 2013.
  - Benjamin Brown, “Characterization of Plants using Wireless Network Signal Strenght”. M.S. Thesis Advisor, Summer 2012.
  - Alkema Woods, “Trojan SmartFarm: Utilizing Sensing Capabilities of Smart Phones to Enhance Yield of High Value Crops”. M.S. Thesis Advisor, Fall 2011
  - Madhan Muralimanohar, “Static GPU Profitability Analysis of Loop Nests”. M.S. Thesis Advisor, Fall 2011
  - Ayodele Ogunnika, “An Evaluation of Gaussian Models for Data Acqusition in Sensor Networks”. M.S. Thesis Advisor, Summer 2011
  - Ashwin Swaminathan, “CCALoop - A Scalable Distributed Component Framework for Scientific Computing”. MS Thesis Mentor, University of Utah, School of Computing, 2007

Professional Service

- IEEE International Working Conference on Source Code Analysis and Manipulation (SCAM)
  — Web Chair (2016)
- Commonwealth Center for Advanced Manufacturing
  — Technical Advisory Group Member (2015)
- IEEE Transactions on Software Engineering
  — Reviewer (2014)
- ACM Transactions on Software Engineering and Methodology
  — Reviewer (2015)
- European Conference on Software Maintenance and Reengineering – Working Conference on Reverse Engineering (CSMR-WCRE)
  — Program Committee Member, Tool Demonstrations Track (2014)
- International Workshop on Sensor Networks
  — Technical Program Committee Member (2012, 2013)
- Workshop on Component-Based High Performance Computing
  — Technical Program Committee Member (2009, 2010)

- DOE Proposal Reviewer (2010)
- NSF Panelist (2010)
- Common Component Architecture (CCA) Forum
  - — Voting Member (2002–2010)
  - — Event Service Specification Committee Chair (2008–2010)
- *goHazel.com* External Advisory Board Member (2009–2010)