

Biographical Sketch

Kai Wang
Assistant Professor
Department of Computer Sciences
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Professional Preparation

Tsinghua University	Beijing, China	Automation	Bachelor of Engineering, 2000
Indiana University Purdue University Indianapolis	Indianapolis, IN, USA	Computer Science	Master of Science, 2008
University of Tennessee	Knoxville, TN, USA	Computer Science	Ph.D, 2015

Appointments

Assistant Professor, Department of Computer Sciences, Georgia Southern University, 2015-present

Awards

Nov. 2017, College of Engineering and Information Technology (CEIT) Research Seed Grant Award, Georgia Southern University

Aug. 2015, Georgia Southern University Start-up Grant

May 2013, Student travel award for International Conference on Intelligent Biology and Medicine 2013

Publications

(i) published or accepted journal articles

Mustafa Ozen, Hua Wang, **Kai Wang** and Demet Yalman, An edge-swap heuristic for finding dense spanning trees, *Theory and Applications of Graphs*: Volume 3, Issue 1, ISSN: 2470-9859, DOI: 10.20429/tag.2016.030101

Ronald D. Hagan, Michael A. Langston and **Kai Wang**, Lower bounds on paraclique density, *Discrete Applied Mathematics*, Volume 204, 11 May 2016, Pages 208-212, ISSN: 0166-218X, DOI: 10.1016/j.dam.2015.11.010

Kai Wang, Charles A. Phillips, Arnold M. Saxton and Michael A. Langston, EntropyExplorer: An R Package for Computing and Comparing Differential Shannon Entropy, Differential Coefficient of Variation and Differential Expression, *BMC Research Notes* 8:1 (2015), ISSN: 1756-0500, DOI: 10.1186/s13104-015-1786-4

Kai Wang, Charles A. Phillips, Gary L. Rogers, Fredrik Barrenäs, Mikael Benson and Michael A. Langston, Differential Shannon Entropy and Differential Coefficient of Variation: Alternatives and Augmentations to Differential Expression in the Search for Disease-Related Genes, *International Journal of Computational Biology and Drug Design* 7 (2014), 183-194. ISSN: 1756-0756, DOI: 10.1504/IJCBDD.2014.061656

(ii) published or accepted conference proceeding papers

Kai Wang, Charles A. Phillips, Casey Miller, David G. Laughon and Michael A. Langston, Graph Algorithm Alternatives via Polynomial-Time Transformations: An Empirical Study Using Boolean Satisfiability and Integer Linear Programming, accepted for publication in *4th Annual Conference on Computational Science & Computational Intelligence (CSCI'17)*, Dec. 14-16, 2017, Las Vegas, Nevada, USA

Kai Wang, Xiaolu Zhou and Lixin Li, Disentangle crime hot spots and displacements in space and time: an analysis for Chicago from 2001 to 2016, in the *Proceedings of 25th ACM SIGSPATIAL International Conference on Advances in Geographic Information Systems (ACM SIGSPATIAL 2017) Workshop on Geospatial Humanities*, Nov. 7-10, 2017, Redondo Beach, California, USA

Shaoen Wu, Kelly Blair, Junhong Xu, Shangyue Zhu, Hanqing Guo, **Kai Wang**, Lei Chen, Real Time Video Stitching by Exploring Temporal and Spatial Features, in *10th EAI International Conference on Mobile Multimedia Communications*, Jul. 13-14, 2017, CHONGQING, PEOPLE'S REPUBLIC OF CHINA

Md Baitul Al Sadi, Hayden Wimmer, Lei Chen and **Kai Wang**, Improving the Efficiency of Big Forensic Data Analysis Using NoSQL, in *10th EAI International Conference on Mobile Multimedia Communications*, Jul. 13-14, 2017, CHONGQING, PEOPLE'S REPUBLIC OF CHINA

Joshua Regenold, **Kai Wang**, Gary Smith, Qingzhong Liu and Lei Chen, Enhancing Enterprise Security through Cost-effective and Highly Customizable Network Monitoring, in *10th EAI International Conference on Mobile Multimedia Communications*, Jul. 13-14, 2017, CHONGQING, PEOPLE'S REPUBLIC OF CHINA

Charles A. Phillips, **Kai Wang**, Jason Bubier, Erich J. Baker, Elissa J. Chesler and Michael A. Langston, Scalable multipartite subgraph enumeration for integrative analysis of heterogeneous experimental functional genomics data, in *Proceeding BCB '15 Proceedings of the 6th ACM Conference on Bioinformatics, Computational Biology and Health Informatics*, Pages 626-633, Atlanta, Georgia, Sep. 9-12, 2015, ISBN: 978-1-4503-3853-0, DOI: 10.1145/2808719.2812595

Ronald D. Hagan, Charles A. Phillips, **Kai Wang**, Gary L. Rogers and Michael A. Langston, Toward an efficient, highly scalable maximum clique solver for massive graphs, in *2014 IEEE International Conference on Big Data*, 27-30 Oct. 2014, Washington, DC, USA, ISBN: 978-1-4799-5667-8, DOI: 10.1109/BigData.2014.7004370

Ronald D. Hagan, Charles A. Phillips, **Kai Wang**, Gary L. Rogers, Callum Lowcay and Michael A. Langston, On the Relative Significance of Kernelization versus Branching for Parallel FPT Implementations, in *Proceeding (793) Artificial Intelligence and Applications*, Feb. 2013, Innsbruck, Austria, DOI: 10.2316/P.2013.795-049

Yan Sui, Fabio Maino, Yudong Guo, **Kai Wang** and Xukai Zou, An Efficient Time-bound Access Control Scheme for Dynamic Access Hierarchy, in *Proceedings of the 2009 Fifth International Conference on Mobile Ad-hoc and Sensor Networks*, Wu Yi Mountain, China, Dec. 2009, ISBN: 978-1-4244-5468-6, DOI: 10.1109/MSN.2009.51

Kai Wang, Xukai Zou and Yan Sui, A Multiple Secret Sharing Scheme based on Matrix Projection, in *Proceedings of IEEE International Computer Software and Applications Conference*, Seattle, Jul. 2009, ISBN: 978-0-7695-3726-9, DOI: 10.1109/COMPSAC.2009.60

Kai Wang, Yan Sui, Xukai Zou, Arjan Duresi and Shiao-fen Fang, Pervasive and Trustworthy Healthcare, *Advanced Information Networking and Applications - Workshops, 2008. AINAW 2008. 22nd International Conference on*, Okinawa, Japan, Mar. 2008, ISBN: 978-0-7695-3096-3, DOI: 10.1109/WAINA.2008.147

(iii) under review

Kai Wang, "Efficient Counting of Degree Sequences," <https://arxiv.org/abs/1604.04148>, under review by the *Journal of Discrete Mathematics*, ISSN: 0012-365X

Kai Wang, "On the Complexity of the Maximum Edge r -Partite Clique Problem," under review by the *Journal of Discrete Applied Mathematics*, ISSN: 0166-218X

Charles A. Phillips, **Kai Wang**, Erich J. Baker, Elissa J. Chesler and Michael A. Langston, "On the Efficient Enumeration of Maximum and Maximal k -partite-cliques in k -partite Graphs," under review by the *Journal of Discrete Algorithms*, ISSN: 1570-8667

Poster Presentations

Kai Wang, Charles A. Phillips, Arnold M. Saxton and Michael A. Langston, An Automated Resource for Enhanced Differential Analysis, *14th Annual UT-KBRIN Bioinformatics Summit*, Paris Landing State Park, Buchanan, TN, March 20-22, 2015

Kai Wang, Charles A. Phillips, Gary L. Rogers, Fredrik Barrenas, Mikael Benson, Michael A. Langston, Differential Shannon entropy and differential coefficient of variation: alternatives to differential expression in the search for disease-related genes, *11th Annual UT-ORNL-KBRIN Bioinformatics Summit*, Louisville, KY, USA, 30 March-1 April, 2012

Services at Work

Curriculum Committee Member, Department of Computer Sciences, Georgia Southern University, 2017

Faculty Search Committee Member, Department of Computer Sciences, Georgia Southern University, 2016

Synergistic Activities

Reviewer for International Conference on Combinatorial Optimization and Applications 2013

Reviewer for International Symposium on Parameterized and Exact Computation 2014

Reviewer for Journal of Theoretical Computer Science 2014~2015

Reviewer for Open Journal of Discrete Mathematics, Journal of Digital Communications and Networks, Journal of Mathematics, Journal of Theory and Applications of Graphs 2017