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DONG-CHUL KIM

- appointments** Assistant Professor
Department. of Computer Science, the Univ. of Texas Rio Grande Valley
Sept. 2015–Present
- Assistant Professor
Department of Computer Science, the University of Texas Pan American
Sept. 2014–Aug. 2015
- Lecturer
Department of Computer Science, University of Texas at Arlington
Mar. 2012–Aug. 2014
- Research Assistant
Department of Computer Science, University of Texas at Arlington
2011
- Visiting Scholar
TianJin Normal University
Summer 2011
- Teaching Assistant
Department of Computer Science, University of Texas at Arlington
2008–2010
- military service** Signal corpsman, Sergeant
Republic of Korea Army
Jan. 1996–Mar. 1998
- education** Ph.D., Computer Science, University of Texas at Arlington, 2014.
Dissertation: *Integrative approaches for biological network inference*.
M.S., Computer Science, University of Texas at Arlington, 2007.
Thesis: *Flash crowds mitigation system*
B.S., Computer Science, Kyugsung University, 2003.
B.B.A., Trade, Hankuk University of Foreign Studies, 2001.
- research lab** Founding director of Machine Intelligence Lab
Department of Computer Science, University of Texas Rio Grande Valley.
<https://faculty.utrgv.edu/dongchul.kim/milab/>

publications *Peer-reviewed Journal and Conference Publications*

- A. Biswas, D. Kim, M. Kang, and J. Gao. "Robust Inductive Matrix Completion Strategy to Explore Associations between LincRNAs and Human Disease Phenotypes." *IEEE/ACM Transactions on Computational Biology and Bioinformatics*, 2018 Jun 7.
- C. Pena-Caballero, E. Cantu, J. Rodriguez, A. Gonzales, O. Castellanos, A. Cantu, M. Strait, J. Son, and D. Kim. "A Multiple Radar Approach for Automatic Target Recognition of Aircraft Using Inverse Synthetic Aperture Radar." *The 1st International Conference in Data Intelligence and Security*, pp. 24-31, 2018.
- A. Biswas, D. Kim, M. Kang, C. Ding, and J. Gao. "Stable solution to l2,1-based robust inductive matrix completion and its application in linking long noncoding RNAs to human diseases." *BMC Med Genomics*. 2017; 10(Suppl 5): 77.
- D. Kim, M. Kang, A. Biswas, C. Yang, X. Wang, and J. Gao. "Effects of Low Dose Ionizing Radiation on DNA Damage-caused Pathways by Reverse Phase Protein Array and Bayesian Networks." *Journal of bioinformatics and computational biology* 15, no. 02 (2017): 1750006.
- Xiang Lian and D. Kim. "Efficient Ad-Hoc Graph Inference and Matching in Biological Databases." *In Proceedings of the 2017 ACM International Conference on Management of Data*, pp. 359-373, 2017.
- M. Kang, D. Kim, C. Liu, and J. Gao. "Identifying cis/trans-acting expression Quantitative Trait Loci." *International Journal of Data Mining and Bioinformatics* 19, no. 1 (2017): 1-18.
- M. Kang, J. Park, D. Kim, A. Biswas, C. Liu, and J. Gao. "Multi-Block Bipartite Graph for Integrative Genomic Analysis." *IEEE/ACM Transactions on Computational Biology and Bioinformatics (impact factor: 1.609)* 14, no. 6 (2017): 1350-1358.
- N. Zarayeneh, E. Ko, J.H. Oh, S. Suh, C. Liu, J. Gao, D. Kim, and M. Kang. "Integration of Multi-omics Data for Integrative Gene Regulatory Network Inference." *International Journal of Data Mining and Bioinformatics* 18, no. 3 (2017): 223-239.
- A. Biswas, D. Kim, M. Kang, J. Gao. "Robust Inductive Matrix Completion Strategy to Explore Associations between LincRNAs and Human Disease Phenotypes." *IEEE International Conference on Bioinformatics and Biomedicine (acceptance rate for regular papers: 19%), Shenzhen, China, Dec. 15-18, 2016*.
- D. Kim, M. Kang, A. Biswas, C. Liu, and J. Gao. "Integrative approach for inference of gene regulatory networks using lasso-based random featurizing and application to Psychiatric disorders." *BMC Medical Genomics (impact factor 2.873)*, 9(Suppl 2):50, 2016.
- A. Ajam, R. Hossain, N. Tasnim, L. Castanuela, R. Ramos, D. Kim, Y. Choi. "Hand-crafted Microwire Regenerative Peripheral Nerve Interfaces with Wireless Neu-

- ral Recording and Stimulation Capabilities." *International Journal of Sensor Networks and Data Communications* (impact factor: 1.41) 5, no. 133 (2016): 2.
- Hill, Steven M., The HPN-DREAM Consortium, et al. "Inferring causal molecular networks: empirical assessment through a community-based effort." *Nature methods* (impact factor: 32.072) 13, no. 4 (2016): 310.
- D. Kim, M. Kang, A. Biswas, C. Liu, and J. Gao. "Integrative approach for inference of gene regulatory networks using lasso-based random featurizing and application to Psychiatric disorders." *IEEE International Conference on Bioinformatics and Biomedicine* (acceptance rate for regular papers: 19% (68/346)), Washington D.C., Nov. 9-12, 2015.
- M. Kang, J. Park, D. Kim, A. Biswas, C. Liu, and J. Gao. "An Integrative Genomic Study for Multimodal Genomic Data Using Multi-Block Bipartite Graph." *IEEE International Conference on Bioinformatics and Biomedicine* (acceptance rate for regular papers: 19% (68/346)), Washington D.C., Nov. 9-12, 2015.
- A. Biswas, M. Kang, D. Kim, C. Ding, B. Zhang, X. Wu, J. Gao. "Inferring Disease Associations of the Long non-coding RNAs through Non-negative Matrix Factorization." *Network Modeling Analysis in Health Informatics and Bioinformatics* 4, no. 1 (2015): 9.
- M. Kang, D. Kim, C. Liu, and J. Gao. "Multiblock Discriminant Analysis for Integrative Genomic Study." *BioMed Research International* (impact factor: 2.71), 2015.
- D. Kim, C. Liu, J. Wang, and J. Gao. "Inference of Gene Regulatory Networks by Integrating Gene Expressions and Genetic Perturbations." *BioMed Research International* (impact factor: 2.71), 2014.
- D. Kim, M. Kang, J. Gao. "Integration of DNA Methylation, Copy Number Variation, and Gene Expression for Gene Regulatory Network Inference and Application to Psychiatric Disorders." *IEEE International Conference on Bioinformatics and BioEngineering*, Boca Raton, Nov. 10-12, 2014.
- M. Kang, D. Kim, C. Liu, and J. Gao. "Multiblock Discriminant Analysis for Integrative Genomic Study." *IEEE International Conference on Bioinformatics and BioEngineering*, Boca Raton, Nov. 10-12, 2014.
- M. Kang, S. Li, D. Kim, C. Liu, and J. Gao. "eQTL Mapping Study via Regularized Sparse Canonical Correlation Analysis." *IEEE International Conference on Machine Learning and Applications*, Miami, Dec. 4-7, 2013.
- D. Kim, C. Liu, and J. Gao. "Inference of Gene Regulatory Networks by Integrating Gene Expressions and Genetic Perturbations." *IEEE International Conference on Bioinformatics and Biomedicine*, Shanghai, China, Dec 18-21, 2013.
- M. Kang, D. Kim, and J. Gao. "SF-RPQ: A novel statistical framework for reliable protein quantification in label-free quantitative proteomics." *Annual International Conference of the IEEE Engineering in Medicine and Biology Society*, Osaka, Japan, July 3-7, 2013.

- D. Kim, X. Wang, C. Yang, and J. Gao. "A framework for personalized medicine: prediction of drug sensitivity in cancer by proteomic profiling." *Proteome Science (impact factor: 2.49)* 10, no. 1 (2012): S13.
- M. Kang, D. Kim, and J. Gao. "A Novel Multivariate Quantification Strategy for Complex Mass Spectrometry Data." *International Conference on Bioinformatics and Computational Biology, Las Vegas, March 12-14, 2012*.
- D. Kim, X. Wang, C. Yang, and J. Gao. "A Framework for Personalized Medicine with Reverse Phase Protein Array and Drug Sensitivity." *IEEE International Conference on Bioinformatics and Biomedicine, Atlanta, Nov. 12-15, 2011*.
- D. Kim, C. Yang, X. Wang, B. Zhang, X. Wu, and J. Gao. "Discovery of Lung Cancer Pathways using Reverse Phase Protein Microarray and Prior-Knowledge based Bayesian Networks." *IEEE Engineering in Medicine and Biology Society, Boston, Aug. 30-Sept. 3, 2011*.
- D. Kim, X. Wang, C. Yang, and J. Gao. "Learning Biological Network Using Mutual Information and Conditional Independence." *BMC Bioinformatics (impact factor: 3.028)* 11, no. 3 (2010): S9.
- D. Kim, J. Gao, C. Yang. "Learning Proteomic Network Structure by a New Hill Climbing Algorithm." *IEEE International Conference on Bioinformatics and BioEngineering, Philadelphia, May 31-Jun 3, 2010*.
- H. Lee, D. Kim, K. Basu, and S. Das. "A carbon footprint reduction and an inhabitants comfort maximization by controlling different levels of lighting and thermostat in smart homes." *IEEE International Conference on Smart Homes and Health Telematics, Nara, Japan, June 21-23, 2007*.

external
research
funding

Feasibility Study for 3D Visualization using Underground Image Data
\$11,917
University of Central Florida
April, 2017

selected
invited talks

"Machine Learning and GPU." HPC workshop, UTRGV, March, 2017.
"Introduction to machine learning and bioinformatics." Kyungsung University, Korea, July, 2016.
"Introduction to machine learning." ACM, UTRGV, March 2016 and April 2017.
"Machine Learning in Bioinformatics and Application to Psychiatric Disorder: biological network inference and prognosis for psychiatric disorder." 28th Annual Psychiatric Nursing & Mental Health Conference, Arlington, TX, April 2015.
"Learning structure of Bayesian network classifier and application to personalized medicine for lung cancer." Department of Industrial Engineering Seminar, UT Arlington, Arlington, TX, April 2014.

“Biological network inference for lung cancer.” College of Physics and Electronics Information, TianJin Normal University Seminar, TienJin, China, June, 2011.

selected
conference
presentations

“Integrative approach for inference of gene regulatory networks using lasso-based random featurizing and application to Psychiatric disorders.” IEEE International Conference on Bioinformatics and Biomedicine, Washington D.C., Nov., 2015.

“Integration of DNA Methylation, Copy Number Variation, and Gene Expression for Gene Regulatory Network Inference and Application to Psychiatric Disorders.” IEEE International Conference on Bioinformatics and BioEngineering, Boca Raton, USA, Nov., 2014.

“Discovery of Lung Cancer Pathways using Reverse Phase Protein Microarray and Prior Knowledge based Bayesian Networks.” IEEE Engineering in Medicine and Biology Society, Boston, MA, Aug, 2011.

“Subcellular Particles Tracking in Time-lapse Confocal Microscopy Images.” IEEE Engineering in Medicine and Biology Society, Boston, MA, Aug., 2011.

teaching

University of Texas Rio Grande Valley

CSCI 6366 Data Mining - Spring 2017

CSCI 4352 Machine Learning - Fall 2018, Fall 2017, Spring 2016

CSCI 3326 Object Oriented Programming in Java - Fall 2018, Summer 2018, Spring 2018, Fall 2017, Spring 2017, Fall 2016, Spring 2016, Fall 2015

CSCI 6334 Advanced Operating System - Fall 2016

CSCI 6175 Seminar in Computer Science - Fall 2015

CSCI 1370 Computer Science I (Programming in C++) - Spring 2018

University of Texas Pan American

CSCI 3326 Object Oriented Programming in Java - Spring 2015

CSCI 4335 Computer Architecture - Spring 2015

CSCI 6334 Advanced Operating System - Fall 2014

CSCI 1101 Introduction to Computer Science - Fall 2014

University of Texas at Arlington

CSE 1311 Introductory Programming for Engineers & Scientists (Programming in C) - Summer 2014, Summer 2013, Summer 2012

CSE 1301 Computer Literacy - Spring 2014, Fall 2013, Spring 2013, Fall 2012, Spring 2012

students
supervised in
UTRGV

Graduate

Santiago Pazmino, Fall 2014 – Spring 2015

Vinay Klichelimi, Fall 2014 – Spring 2015
 Tarunkumar Agastya, Fall 2014 – Spring 2015
 Kirankumar Tambalkar, Fall 2014 - Spring 2016
 Goutham Bakaram, Fall 2014 - Fall 2015
 Vaijyanthi Rajendran, Fall 2014 - Spring 2016
 Sai Jyothsna Jonnalagadda, Spring 2015 - Spring 2016
 Sharath Kumar Aitha, Spring 2016
 Naveen Kumar Badam, Spring 2016
 Sowmya Badida, Spring 2016
 Tanvir Ul Hassan, Spring 2016
 Saraswathi Pakalapati, Spring 2016
 Ankush Verma, Spring 2016
 Divya Vuppala, Spring 2016 - Fall 2016
 Sandeep Reddy Chaganti, Spring 2016 - Fall 2016
 Manasa Joshi, Fall 2016 - Fall 2016
 Swathi Jajula, Fall 2016 - Fall 2016
 Jesus Rodriguez, Spring 2017 - Summer 2017
 Elifaleth Cantu Alanis, Spring 2017 - Summer 2017
 Javier Marroquin, Spring 2017
 Ricardo Cantu, Spring 2017
 Carlos Pena Caballero, Spring 2017 - present
 Adolfo Gonzalez, Fall 2017 - present
 Gilberto Quintos, Fall 2017 - present
 Osvaldo Castellanos, Fall 2017 - present

Undergraduate

Angel Cantu, Fall 2017 - present
 Irania Rodreguez, Spring 2018
 Rogelio Ramirez III, Spring 2018
 Saul Perales, Spring 2018
 Dante Galvan, Spring 2018
 Edgar De la Torre Bazan, Spring 2018
 Emanuel Zapata, Spring 2018
 Nancy Vidales, Spring 2018
 Arturo Cervantes, Fall 2017 - Spring 2018
 Andres Garcia, Fall 2017 - Spring 2018
 Emmanuel Culebro, Fall 2017 - Spring 2018
 Angel Aguilar, Fall 2017
 Juan Tellez, Spring 2017 - Fall 2017
 Gerardo Leon, Fall 2015 - Spring 2017

Dustin Torres, Spring 2016
 Adolfo Gonzalez, Spring 2016 - Spring 2017
 Judith Martinez, Spring 2016 - Fall 2016
 Luis Rossano, Spring 2016 - Spring 2017
 Marco Lugo, Spring 2016
 Antonio Quezada, Spring 2016 - Fall 2016
 Mario Poire, Summer 2016 - Spring 2017
 Ricardo Cantu, Summer 2015
 Harry Brown, Fall 2015 - Spring 2016
 Rubi Quinones, Spring 2016
 Brandon Olivarez, Spring 2016
 Salvador Ramon, Spring 2016
 Changik Choi, Summer 2015 - Fall 2016
 Janette Gonzalez, Spring 2016 - Fall 2016
 Angel Hernandez, Spring 2016 - Fall 2016
 Bernardo Garza, Summer 2016 - Fall 2016
 Lionel Hernandez, Summer 2016 - Fall 2016
 Adrian Leal, Spring 2016 - Fall 2016
 Carlos Pena Caballero, Spring 2016 - Fall 2016
 Jesus Rodriguez, Spring 2016 - Fall 2016
 Elifaleth Cantu Alanis, Spring 2016 - Fall 2016

professional
 services

Publication Chair, the 1th International Conference on Data, Intelligence and Security (ICDIS), 2018, 2019
 Program Chair, the 9th International Workshop on Biological Network Analysis and Integrative Graph-Based Approaches (IWBNA), 2016, 2017.
 Program Committee member, the 2nd International Conference on Big Data Computing and Communication (BigCom), 2016
 Founding director of Machine Learning research lab, Department of Computer Science, UTRGV, Sept. 2015.
 Workshop Leader, Computer Science workshop for high School teachers, UTPA, July 2015.
 Communication chair, Korean Computer Scientists and Engineers Association in America (KOCSEA) 2014, 2015.
 Communication chair, KOCSEA Technical Symposium 2014, 2015.
 Program committee member, International Conference on Bioinformatics, Biocomputational Systems and Biotechnologies (BIOTECHNO), 2014, 2015, 2016.
 Program committee member, International Work-Conference on Bioinformatics and Biomedical Engineering (IWBBIO), 2017.

Program committee member, International Conference on Data Mining and Knowledge Discovery (DMKD), 2018, 2019

Program committee member, International Conference on Computational Biology and Bioinformatics (ICCB), 2017, 2018

Program committee member, International Conference on Machine Learning and Applications (ICMLA), 2017

Program committee member, IEEE International Conference on Bioinformatics and Biomedicine (BIBM), 2016, 2018.

awards and honors

Travel Fund for Junior Faculty, UTRGV, Fall 2014, Fall 2015

Enhanced Graduate Teaching Assistant Fellowship, UTA, 2014

STEM Doctoral Fellowship, UTA, 2008-2014

Graduate Dean Fellowship, UTA, 2008-2013

Teaching and Research Assistant Fellowship, UTA, 2008-2011

YoungHo Kim Scholarship, YoungHo Kim, 2010

Employee Family Fellowship, Kyunsung University, 2001-2002

Honor Scholarship, Hankuk University of Foreign Studies, 1999

other service

Journal and Conference Reviewer

IEEE/ACM Transaction on Computational Biology and Bioinformatics

Annals of Applied Statistics

Journal of Thoracic Oncology

BMC Bioinformatics

ACM Conference on Bioinformatics, Computational Biology and Biomedicine

International Symposium on Bioinformatics Research and Applications

IEEE International Conference on Bioinformatics and Biomedicine

International Workshop on Data Mining in Bioinformatics

International Journal of Data Mining and Bioinformatics

Judging panel for the HESTEC student poster competition, Fall 2014, Spring 2015

Organizing the Machine Learning seminar in UTRGV, Summer 2015 – present

Committee member, Korean RGV Venture Supporting Committee (KRVSC) in UTRGV, Fall 2014

references

References available upon request