

Won Hwa Kim

#321 Engineering Building II, POSTECH,
77 Chungam-ro, Nam-gu, Pohang, South Korea

RESEARCH INTERESTS

My research interest lie in various topics in **Machine Learning**, **Computer Vision** and **Medical Imaging**. On the theoretical side, I am particularly interested in applied harmonic analysis in non-Euclidean spaces (e.g., signal processing on graphs) to develop novel parametric Deep Learning frameworks for improving sensitivity of discrimination methods. On the application side, I mainly focus on analysis of medical imaging data to facilitate understandings of various factors for disease diagnosis, identifying disease-specific variations and brain development / functionalities.

APPOINTMENTS

Assistant Professor Graduate School of Artificial Intelligence, POSTECH, S. Korea Computer Science and Engineering, POSTECH, S. Korea	2020 - present
Assistant Professor (currently on leave-of-absence) Computer Science and Engineering, University of Texas at Arlington	2018 - present
Researcher Data Science Team, NEC Labs, America, U.S.A.	2017 - 2018
Research Assistant Wisconsin Alzheimer's Disease Research Center (W-ADRC), U.S.A. Computer Science/Biostatistics, University of Wisconsin - Madison, U.S.A.	2011 - 2017
Research Engineer Environmental Tech Center, Hyundai Motors Company, S. Korea	2010 - 2011
Information Management Officer Headquarter, the 8th U.S. Army Division, S. Korea	2003 - 2005

EDUCATION

University of Wisconsin - Madison , Madison, Wisconsin, U.S.A. Ph.D, Computer Sciences (Minor in Statistics) <ul style="list-style-type: none">• Thesis: A Multi-resolution Framework for Statistical Analysis of Neuroimaging Data• Advisor: Vikas Singh	2011 - 2017
KAIST , Daejeon, South Korea M.S., Robotics Program <ul style="list-style-type: none">• Thesis: Diversified Emotions with Mood for Human-like Behaviors of Robots• Advisor: Myungjin Chung	2008 - 2010
Sungkyunkwan University , Seoul, South Korea B.S., Electrical Engineering (<i>Early graduation in 7 semesters</i>)	2001 - 2008

HONORS and AWARDS

• NSF CISE CAREER Workshop Travel Award, National Science Foundation (NSF)	2019
• Rising STARs Award, University of Texas System [\$250,000]	2017
• Doctoral Consortium Travel Award, Computer Vision and Pattern Recognition (CVPR)	2016
• Student Travel Award, Medical Image Computing and Computer Assisted Intervention (MICCAI)	2013
• Machine Learning Summer School (MLSS) Scholarship, University of California, Santa Cruz	2012
• National Fellowship, S. Korea	2008 - 2010
• Finalist for Best Paper in Biomimetics, International Conference on Robotics and Biomimetics	2009

- Merit Based Scholarship, Sungkyunkwan University 2002, 2003, 2005
- 3rd Place in 12th Grade, Utah Math Contest 2001

GRANTS

- NIH R03 AG070701 (with Dr. Wu at UNC-Chapel Hill), *Continuing Tool Development for Longitudinal Network Analysis: Enriching the Diagnostic Power of Disease-Specific Connectomic Biomarkers by Deep Graph Learning*, National Institute of Health (NIH), Role: **Co-I**, [UTA: \$125,353] 2021 - 2023
- NSF IIS CRII 1948510 (known as “Mini CAREER”), *Learning Novel Multi-resolution Representations of Graphs: Applications to Brain Connectivity Analysis for Alzheimer’s Disease*, National Science Foundation (NSF), Role: **PI**, [\$175,000] 2020 - 2022
- NSF IIS SMALL 2008602 (joint work between UTA and NJIT), *An Optimization Framework for Designing Derived Attributes with Humans-in-the-loop*, National Science Foundation (NSF), Role: **Co-PI**, [\$498,762] 2020 - 2022
- NIH R01 AG059312-01A1 (with Dr. Singh at UW-Madison), *Algebraic Formulations for Characterizing Structural Brain Connectivity Changes and Pathology Transmission Networks in Preclinical Alzheimer’s Disease*, National Institute of Health (NIH), Role: **Co-I**, [UTA: \$150,785] 2019 - 2021
- IITP-2020-2015-0-00742 (gift from Sungkyunkwan University), *High-Potential Individuals Global Training Program*, Institute for Information and Communications Technology Promotion (IITP), Role: **PI**, [\$33,034] 2019 - 2020
- Research Enhancement Program (REP), *Convolution Neural Network for Graph Data*, University of Texas at Arlington, Role: **PI**, [\$10,000] 2018 - 2019
- CTEDD 018-08 (joint work with Georgia Tech), *Social Media Analysis for Transportation Assessment*, Center for Equity, Diversity and Dollar (C-TEDD), United States Department of Transportation (USDOT), Role: **PI**, [\$101,933] 2018 - 2019

PUBLICATIONS

Note: Top-tier conferences in computer science are valued as prestigious journals in other areas.

1. Xin Ma, **Won Hwa Kim**, “Locally Normalized Soft Contrastive Clustering for Compact Clusters”, *International Joint Conference on Artificial Intelligence (IJCAI)*, 2022. [Acceptance rate: 15%]
2. Hyuna Cho, Gunwoong Park, Amal Isaiiah, **Won Hwa Kim**, “Covariate Correcting Network for Detecting Sole Effect of Socioeconomic Status on Brain in Children”, *Annual Meeting of the Organization for Human Brain Mapping (OHBM)*, 2022.
3. Hyuna Cho*, Feng Tong, Sungyong You, Sungyoung Jung, **Won Hwa Kim**, Jayoung Kim “Prediction of Response to Immunotherapy in Bladder Cancer Patients”, *IEEE Open Journal of Engineering in Medicine and Biology*, 2022. (*: Kim’s student)
4. Fan Yang, Guorong Wu, **Won Hwa Kim**, “Disentangled Representation of Longitudinal β -Amyloid for AD via Sequential Graph Variational Autoencoder with Supervision”, *IEEE International Symposium on Biomedical Imaging (ISBI)*, 2022.
5. Hyuna Cho, Gunwoong Park, Amal Isaiiah, **Won Hwa Kim**, “Covariate Correcting Networks for Identifying Associations between Socioeconomic Factors and Brain Outcomes in Children”, *Medical Image Computing and Computer Assisted Intervention (MICCAI)*, 2021.
6. Fan Yang*, Rui Meng*, Hyuna Cho, Guorong Wu, **Won Hwa Kim**, “Disentangled Sequential Graph Autoencoder for Preclinical Alzheimer’s Disease Characterizations from ADNI study”, *Medical Image Computing and Computer Assisted Intervention (MICCAI)*, 2021. (*: equal contribution)
7. Xin Ma, Guorong Wu, Seong Jae Hwang, **Won Hwa Kim**, “Learning Multi-resolution Graph Edge Embedding for Discovering Brain Network Dysfunction in Neurological Disorders”, *International Conference on Information Processing in Medical Imaging (IPMI)*, 2021.
8. Debapriya Banerjee, Maria Kyrarini, **Won Hwa Kim**, “Image-Label Recovery on Fashion Data Using Image Similarity from Triple Siamese Network”, *Technologies*, 2021.
9. ByungOk Han, Woo-han Yun, Jang-hee Yoo, **Won Hwa Kim**, “Toward Unbiased Facial Expression Recognition in the Wild via Cross-dataset Adaptation”, *IEEE Access*, 2020. [impact factor: 3.75]

10. Gowtham Krishnan Murugesan, Chandan Ganesh, Sahil Nalawade, Elizabeth M. Davenport, Ben Wagner, **Won Hwa Kim**, Joseph A. Maldjian, “BrainNET: Inference of Brain Network Topology using Machine Learning”, *Brain Connectivity*, 2020. [impact factor: 2.26]
11. Tuan Q. Dinh, Yunyang Xiongy, Zhichun Huangy, Tien Voy, Akshay Mishray, **Won Hwa Kim**, Sathya N. Ravi, Vikas Singh, “Performing Group Difference Testing on Graph Structured Data from GANs: Analysis and Applications in Neuroimaging”, *IEEE Transactions on Pattern Analysis and Machine Intelligence (TPAMI)*, 2020. [impact factor: 17.86]
12. Fan Yang, Amal Isaiiah, **Won Hwa Kim**, “COVLET: Covariance-based Wavelet-like Transform for Statistical Analysis of Brain Characteristics in Children”, *Medical Image Computing and Computer Assisted Intervention (MICCAI)*, 2020. [Early accepted: ~13%]
13. Feng Tong*, Muhammad Shahid, Peng Jin, Sungyong Jung, **Won Hwa Kim**, Jayoung Kim “Classification of the Urinary Metabolome using Machine Learning and Potential Applications to Diagnosing Interstitial Cystitis”, *Bladder*, 2020. (*: Kim’s student)
14. Jayoung Kim, Peng Jin, **Won Hwa Kim**, Wun-Jae Kim, “Utilizing Machine Learning to Discern Hidden Clinical Values from Big Data in Urology”, *Investigative and Clinical Urology*, 2020.
15. Xin Ma, Guorong Wu, **Won Hwa Kim**, “Enriching Statistical Inferences on Brain Connectivity via Latent Space Graph Embeddings”, *Organization for Human Brain Mapping (OHBM)*, 2020.
16. Xin Ma, Guorong Wu, **Won Hwa Kim**, “Multi-resolution Graph Neural Network to Identify Disease Relevant Variations in Brain Connectivity”, *Organization for Human Brain Mapping (OHBM)*, 2020.
17. Xin Ma, Guorong Wu, **Won Hwa Kim**, “Multi-resolution Graph Neural Network for Detecting Variations in Brain Connectivity”, *Interaction of Geometry and Topology in Biomedical Imaging (ISBI Workshop)*, 2020.
18. Xin Ma, Guorong Wu, **Won Hwa Kim**, “Enriching Statistical Inferences on Brain Connectivity for Alzheimer’s Disease Analysis via Latent Space Graph Embedding”, *IEEE International Symposium on Biomedical Imaging (ISBI)*, 2020. [Oral Presentation]
19. Anna Philips, Farah Naz, Kate Kyung Hyun, Vivek Patel, Gordon G. Zhang, **Won Hwa Kim**, “Social Media Text Analysis using Multi-kernel Convolution Neural Network for Ride Hailing Service Assessment”, *Transportation Research Board (TRB)*, 2020.
20. Seong Jae Hwang, Zirui Tao, **Won Hwa Kim***, Vikas Singh*, “Conditional Recurrent Flow: Conditional Generation of Longitudinal Samples with Applications to Neuroimaging”, *International Conference on Computer Vision (ICCV)*, 2019. (*: senior authorship shared)
21. Seong Jae Hwang, Zirui Tao, **Won Hwa Kim***, Vikas Singh*, “Statistical Analysis of Longitudinally and Conditionally Generated Neuroimaging Measures via Conditional Recurrent Flow”, *Statistical Deep Learning in Computer Vision (ICCV Workshop)*, 2019. (*: senior authorship shared)
22. Annie M. Racine, Andrew P. Merluzzi, Nagesh Adluru, Derek Norton, Rebecca L. Kosciak, Lindsay R. Clark, Sara E. Berman, Christopher R. Nicholas, Sanjay Asthana, Andrew L. Alexander, Kaj Blennow, Henrik Zetterberg, **Won Hwa Kim**, Vikas Singh, Cynthia M. Carlsson, Barbara B. Bendlin, Sterling C. Johnson “Association of longitudinal white matter degeneration and cerebrospinal fluid biomarkers of neurodegeneration, inflammation and Alzheimer’s disease in late-middle-aged adults”, *Brain Imaging and Behavior*, 2019. [impact factor: 3.39]
23. **Won Hwa Kim**, Annie M. Racine, Nagesh Adluru, Seong Jae Hwang, Kaj Blennow, Henrik Zetterberg, Cynthia M. Carlsson, Sanjay Asthana, Rebecca L. Kosciak, Sterling C. Johnson, Barbara B. Bendlin, Vikas Singh, “Cerebrospinal fluid biomarkers of neurofibrillary tangles and synaptic dysfunction are associated with longitudinal decline in white matter connectivity: a Multi-resolution graph analysis”, *NeuroImage: Clinical*, 2019. [impact factor: 4.35]
24. Seong Jae Hwang, Nagesh Adluru, **Won Hwa Kim**, Sterling C. Johnson, Barbara B. Bendlin, Vikas Singh, “Associations between PET Amyloid Pathology and DTI Brain Connectivity in Preclinical Alzheimer’s Disease”, *Brain Connectivity*, 2019. [impact factor: 2.26]
25. **Won Hwa Kim**, Noelle Fields, Ling Xu, and Chen Kan, “Missing Value Imputation via Graph Completion in Questionnaires of Persons with Dementia”, *Gerontological Society of America (GSA) Annual Scientific Meeting*, 2019.

26. Zachary Bailey, Xin Ma, Martin Hirsch, **Won Hwa Kim**, Juhyun Lee, “Development of an Auto-segmentation Technique using a Convolution Neural Network for the Segmentation of the Ventricular Cavity in Zebrafish”, *Basic Cardiovascular Sciences*, 2019.
27. **Won Hwa Kim**, Hyunwoo J. Kim, Nagesh Adluru, Vikas Singh, “Multi-resolution Analysis for Sparse Inverse Covariance Matrix Estimation”, *International Conference on Brain Informatics (BI)*, 2018.
28. **Won Hwa Kim**, Mona Jalal, Seong Jae Hwang, Sterling C. Johnson, Vikas Singh, “Online Graph Completion: Multivariate Signal Recovery in Computer Vision”, *Computer Vision and Pattern Recognition (CVPR)*, 2017.
29. Tuan Dinh, Sathya Ravi, **WonHwa Kim**, Nagesh Adluru, Rebecca Kosciak, Cynthia Carlsson, Sterling C. Johnson, Vikas Singh, “Graph Imputation techniques for estimating amyloid positivity from longitudinal cognitive and MRI measurements for efficient secondary prevention trials”, *Clinical Trials on Alzheimer’s Disease (CTAD)*, 2017
30. **Won Hwa Kim**, Seong Jae Hwang, Nagesh Adluru, Sterling C. Johnson, Vikas Singh, “Graph Completion: a generalization of Netflix prize problem to design cost-effective neuroimaging trials in preclinical AD”, *Alzheimer’s Association International Conference (AAIC)*, 2017.
31. **Won Hwa Kim**, “A Multi-resolution Framework for Statistical Analysis of Neuroimaging Data”, *Doctoral Thesis*, 2017.
32. **Won Hwa Kim**, Seong Jae Hwang, Nagesh Adluru, Sterling C. Johnson, Vikas Singh, “Adaptive Signal Recovery on Graphs via Harmonic Analysis for Experimental Design in Neuroimaging”, *European Conference on Computer Vision (ECCV)*, 2016.
33. Seong Jae Hwang, **Won Hwa Kim**, Barbara B. Bendlin, Nagesh Adluru, Vikas Singh, “Multi-Resolution Analysis of DTI-Derived Brain Connectivity and the Influence of PET-Derived Alzheimer’s Disease Pathology in a Preclinical Cohort”, *Alzheimer’s Association International Conference (AAIC)*, 2016.
34. **Won Hwa Kim***, Hyunwoo J. Kim*, Nagesh Adluru, Vikas Singh, “Latent Variable Graphical Model Selection using Harmonic Analysis: Applications to the Human Connectome Project (HCP)”, *Computer Vision and Pattern Recognition (CVPR)*, 2016. [**SPOTLIGHT**: 9.7%] (*: First authorship shared)
35. **Won Hwa Kim**, Sathya Ravi, Sterling C. Johnson, Ozioma C. Okonkwo, Vikas Singh, “On Statistical Analysis of Neuroimages with Imperfect Registration”, *International Conference on Computer Vision (ICCV)*, 2015.
36. **Won Hwa Kim**, Nagesh Adluru, Moo K. Chung, Ozioma C. Okonkwo, Sterling C. Johnson, Barbara B. Bendlin, Vikas Singh, “Multi-resolution Statistical Analysis of Brain Connectivity Graphs in Preclinical Alzheimer’s Disease”, *NeuroImage*, 2015. [impact factor: 5.9]
37. **Won Hwa Kim**, Nagesh Adluru, Moo K. Chung, Ozioma C. Okonkwo, Sterling C. Johnson, Barbara B. Bendlin, Vikas Singh, “A Framework for Performing Multi-Resolution Statistical Analysis of Brain Connectivity Graphs for Preclinical Alzheimer’s Disease”, *Alzheimer’s Association International Conference (AAIC)*, 2015
38. **Won Hwa Kim**, Barbara B. Bendlin, Moo K. Chung, Sterling C. Johnson, Vikas Singh, “Statistical Inference Models for Image Datasets with Systematic Variations”, *Computer Vision and Pattern Recognition (CVPR)*, 2015.
39. **Won Hwa Kim**, Vikas Singh, Moo K. Chung, Nagesh Adluru, Barbara B. Bendlin, Sterling C. Johnson, “Multi-resolution Statistical Analysis on Graph Structured Data in Neuroimaging”, *IEEE International Symposium on Biomedical Imaging (ISBI)*, 2015. [Invited paper/ **Oral presentation**]
40. **Won Hwa Kim**, Vikas Singh, Moo K. Chung, Chris Hinrichs, Deepti Pachauri, Ozioma C. Okonkwo, Sterling C. Johnson, “Multi-resolutional Shape Features via non-Euclidean Wavelets: Applications to Statistical Analysis of Cortical thickness”, *NeuroImage*, 93:107-123, 2014. [impact factor: 5.9]
41. A. Pasha Hosseinbor, **Won Hwa Kim**, Nagesh Adluru, Amit Acharya, Hourii K. Vorperian, Moo K. Chung, “The 4D Hyperspherical Diffusion Wavelet: a New Method for the Detection of Localized Anatomical Variation”, *Medical Image Computing and Computer Assisted Intervention (MICCAI)*, 2014.
42. **Won Hwa Kim**, Nagesh Adluru, Moo K. Chung, Sylvia Charchut, Johnson J. GadElkarim, Lori Altshuler, Teena Moody, Anand Kumar, Vikas Singh, and Alex D. Leow, “Multi-resolutional Brain Network Filtering and Analysis via Wavelets on Non-Euclidean Space”, *Medical Image Computing and Computer Assisted Intervention (MICCAI)*, 2013.

43. **Won Hwa Kim**, Moo K. Chung, Vikas Singh, “Multi-resolution Shape Analysis via Non-Euclidean Wavelets: Applications to Mesh Segmentation and Surface Alignment Problems”, *Computer Vision and Pattern Recognition (CVPR)*, 2013.
44. **Won Hwa Kim**, Deepti Pachauri, Charles Hatt, Moo K. Chung, Sterling C. Johnson, Vikas Singh, “Wavelet Based Multi-scale Shape Features on Arbitrary Surfaces for Cortical Thickness Discrimination”, *Advances in Neural Information Processing Systems (NeurIPS)*, 2012.
45. **Won Hwa Kim**, Jeong Woo Park, Woo Hyun Kim, Won Hyong Lee, Myung Jin Chung, “Proposal of 2D Mood Model for Human-like Behaviors of Robot”, *The Journal of Korea Robotics Society*, 2010.
46. **Won Hwa Kim**, Jeong Woo Park, Won Hyong Lee, Woo Hyun Kim, Myung Jin Chung, “Stochastic Approach on a Simplified OCC Model for Uncertainty and Believability”, *IEEE International Conference on Computational Intelligence in Robotics and Automation (CIRA)*, 2009.
47. Jeongwoo Park, **Won Hwa Kim**, Won Hyong Lee, Myung Jin Chung, “A Robot Simulator ‘FRESi’ for Dynamic Facial Expression”, *International Conference on Ubiquitous Robots and Ambient Intelligence (URAI)*, 2009.
48. Jeongwoo Park, Woo Hyun Kim, Won Hyong Lee, **Won Hwa Kim**, Myung Jin Chung, “Lifelike Facial Expression of Mascot-type Robot based on Emotional Boundaries”, *International Conference on Robotics and Biomimetics (ROBIO)*, 2009. [Finalist for the best paper]
49. Woo Hyun Kim, Jeongwoo Park, Won Hyong Lee, **Won Hwa Kim**, Myung Jin Chung, “Synchronized Multimodal Expression Generation using Editing Toolkit for a Human-friendly robot”, *International Conference on Robotics and Biomimetics (ROBIO)*, 2009.

PATENT

1. **Won Hwa Kim**, Seong Jae Hwang, Nagesh Adluru, Sterling C. Johnson, Vikas Singh, “Computerized System for Efficient Augmentation of Data Sets”, *US Patent App. 15/333,688*, 2018

INVITED TALKS

- Multi-resolution on Brain Network for Characterizing Alzheimer’s Disease, Neuroscience Forum on Alzheimer’s Disease (NFAD) Feb 2022
- Multi-resolution Graph Analysis for Graphical Model Selection and Graph Classification, Tutorial, IEEE Big Computing (BigComp) Jan 2022
- Multi-resolution Methods for Brain Network Analysis, New Faculty Seminar, Korean Computer Vision Society (KCVS) Nov 2021
- Covariate Correcting Networks for Identifying Associations between Socioeconomic Factors and Brain Outcomes in Children, Biomedical Engineering Seminar, Hanyang University Nov 2021
- Global Cross Mentoring, Korea Women in Science and Technology Support Center (WISSET) Aug 2021
- Multi-resolution Graphical Model for Graph Classification, Summer Conference, Korean Artificial Intelligence Association (CKIAIA) Jul 2021
- Enriching Statistical Inferences on Brain Connectivity for Alzheimer’s Disease Analysis via Latent Space Graph Embedding, Asla Symposium (AI & Big Data in Healthcare) Jul 2021
- Multi-resolution Edge Network (MENET) for Alzheimer’s Disease Classification, with Brain Network, Satellite Meeting of 2021 OHBM Jun 2021
- Enhancing Analysis of Neuroimages on Graphs via Multi-resolution Deep Learning, Spring Conference, Korean Society for AI in Medicine (KOSAIM) May 2021
- Enhancing Analysis of Brain Connectivity via Multi-resolution, Spring Conference, Korean Society for Human Brain Mapping (KHBM) May 2021

- Enriching Statistical Inferences on Brain Connectivity for Alzheimer's Disease Analysis via Latent Space Graph Embedding, Spring Seminar Series, Handong University Apr 2021
- Enhancing Statistical Analysis of Graphs in Neuroimaging for Alzheimer's Disease Bioengineering Seminar, GIST Mar 2021
- Enhancing Statistical Analysis of Graphs in Neuroimaging for Alzheimer's Disease, Electrical Engineering Seminar Series, POSTECH Feb 2021
- Enriching Statistical Inferences on Brain Connectivity for Alzheimer's Disease Analysis via Latent Space Graph Embedding, Electrical Engineering Seminar, University of Seoul (UOS) Dec 2020
- Graph Data Analysis for Bio-data Processing using Machine Learning, Electrical Engineering Seminar, University of Seoul (UOS) Jan 2020
- Multi-resolution Analysis for Graphs and Images on Graphs,
 - 1) Gwangju Institute of Science and Technology (GIST) Dec 2019
 - 2) Electronics and Telecommunications Research Institute (ETRI) Jan 2020
- Multi-resolution Analyses of Neuroimaging Data on Graph for AD Studies, Medical Applications of Engineering (BE1105), University of Texas at Arlington Nov 2019
- Recommendation System using AI, Korean-American Scientists and Engineers Association (KSEA) Seminar - North Texas Chapter Oct 2018
- Multi-resolution Analysis for Inverse Covariance Matrix Estimation,
 - 1) Electronics and Telecommunications Research Institute (ETRI) Jul 2018
 - 2) NAVER Tech Talk, NAVER Jul 2018
- Online Graph Completion: Multivariate Signal Recovery in Computer Vision,
 - 1) Computer Vision Seminar (EE), Sungkyunkwan University Jul 2017
 - 2) Data Science Seminar (Math), Sungkyunkwan University Jul 2017
- Multi-resolution Analysis for Inverse Covariance Matrix Estimation, Operator Theory Seminar, Seoul National University Feb 2016
- Statistical Analysis of Neuroimages with Imperfect Registration, IBS Seminar, Sungkyunkwan University Jan 2016
- Multi-resolution Statistical Analysis on Graph Structured Data in NeuroImaging, Medical Image Analysis Seminar, Sungkyunkwan University Jun 2015
- Multi-scale Representation of Cortical Thickness using Wavelet for Group Analysis, Brain Food, Waisman Center Mar 2013
- Wavelet Based Multi-scale Shape Descriptors on Arbitrary Surfaces,
 - 1) Power Electronics Seminar, Sungkyunkwan University Jan 2013
 - 2) Artificial Intelligence Seminar (AISEM), University of Wisconsin - Madison Oct 2012

TEACHING EXPERIENCE

Instructor, Computer Science and Engineering, POSTECH, South Korea

- AIGS/CSED526: Data Mining • CSED429F: Signal Processing

Instructor, Computer Science and Engineering, University of Texas at Arlington, U.S.A.

- CSE4334/5334: Data Mining,
- CSE6367: Computer Vision,
- CSE6363: Machine Learning

Teaching Assistant, Computer Sciences, University of Wisconsin - Madison, U.S.A.

- CS767: Computational Methods in Medical Image Analysis,
- CS638: Statistical Methods for Medical Image Analysis

Teaching Assistant, Robotics Program, KAIST, S. Korea.

- RE510: Intelligent Robot Design Lab.

SERVICES

<i>Editor</i> , ICT Express	2021-2022
<i>Reviewer</i> , International Conference on Machine Learning (ICML)	2017, 2021, 2022
<i>Senior Program Committee</i> , AAAI Conference on Artificial Intelligence (AAAI)	2022
<i>Reviewer</i> , Winter Application for Computer Vision (WACV)	2020-2022
<i>Reviewer</i> , International Conference on Representation Learning (ICLR)	2022
<i>Reviewer</i> , Medical Image Computing and Computer Assisted Intervention (MICCAI)	2014, 2016, 2019-2021
<i>Reviewer</i> , Neural Information Processing Systems (NeurIPS)	2018, 2020, 2021
<i>Reviewer</i> , Computer Vision and Pattern Recognition (CVPR)	2018, 2020, 2021
<i>Reviewer</i> , IEEE Transactions on Pattern Analysis and Machine Intelligence	2020, 2021
<i>Reviewer</i> , IEEE Access	2020, 2021
<i>Program Committee</i> , AAAI Conference on Artificial Intelligence (AAAI)	2019, 2021
<i>Reviewer</i> , European Conference on Computer Vision (ECCV)	2012, 2016, 2020
<i>Reviewer</i> , IEEE Transactions on Medical Imaging (TMI)	2014, 2020
<i>Reviewer</i> , Applied Sciences	2019, 2020
<i>Reviewer</i> , Neurobiology of Aging	2020
<i>Reviewer</i> , Transnational Neurodegeneration	2019
<i>Ad-hoc reviewer</i> , National Science Foundation (NSF)	2019
<i>Reviewer</i> , Brain and Behavior	2019
<i>Reviewer</i> , International Conference on Computer Vision (ICCV)	2019
<i>Reviewer</i> , Entropy	2019
<i>Reviewer</i> , Alzheimer's and Dementia	2019
<i>Review panel</i> , National Science Foundation (NSF)	2018
<i>Reviewer</i> , NeuroImage	2017, 2018

EXTRA ACTIVITIES

<i>Student Representative</i> , Robotics Program, KAIST, S. Korea	2009
<i>Volunteer</i> , International Federation of Automatic Control (IFAC), COEX, S. Korea	2008
<i>Volunteer</i> , International Workshop on Operator Theory and Applications (IWOTA), Seoul National University, S. Korea	2006

PERSONAL REFERENCES

Available upon request.