

KYOMIN JUNG

Associate Professor
Department of Electrical and Computer Engineering
Seoul National University

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Education

Doctor of Philosophy
Department of Mathematics
Massachusetts Institute of Technology
Thesis Advisor: *Devavrat Shah*

Cambridge, MA, USA
Sep 2004 - June 2009

Bachelor of Science
Department of Mathematics
Seoul National University

Seoul, Korea
Mar 1996 - Aug 2003

Seoul Science High School for gifted students

Seoul, Korea
Mar 1993 - Feb 1996

Experiences

1. **Seoul National University**, Department of Electrical and Computer Engineering, Seoul, Korea, *Associate Professor*, Mar 2016 - Present.
2. **Seoul National University**, Automation and Systems Research Institute, *Head of Administration*, Sep 2019 - Present.
3. **Seoul National University**, Department of Electrical and Computer Engineering, Seoul, Korea, *Assistant Professor*, Sep 2013 - Feb 2016.
4. **MIT Department of EECS**, Cambridge, MA, USA, *Visiting Professor*, Fall 2016.
5. **KAIST**, School of Computing, Daejeon, Korea, *Assistant Professor*, June 2009 - Aug 2013.
6. **Microsoft Research**, Cambridge, UK, *Visiting Professor in the Machine Learning and Perception Group*, Jul 2013. probabilistic models. Appeared in UAI 2015.
7. **Microsoft Research**, Cambridge, UK, *Visiting Professor in the Machine Learning and Perception Group*, Aug 2009.
8. **Microsoft Research**, Cambridge, UK, *Research intern in the Machine Learning and Perception Group*, Jun-Aug 2008.
9. **IBM T.J. Watson Research**, Yorktown, NY, USA, *Research intern in the System Analysis and Optimization Group*, Jun-Sep 2007.
10. **Bell Laboratories**, Murray Hill, NJ, USA, *Research intern in the department of Mathematics of Networks and Systems*, Jul-Aug 2006.
11. **Microsoft Research**, Redmond, WA, USA, *Visiting researcher in the Theory Group*, Dec 2003 - Feb 2004.

Research Summary and Selected Papers

- **Citations**

- Google Scholar 2,104 citations (as of September 24, 2020)
- H-index: 19 , i10-index: 40

- **Natural Language Processing**

- ACL 2020 : Develop a bidirectional language model that can reduce the computational cost while maintaining the accuracy of BERT.
- NAACL 2018, AACL 2019 : Develop question-answering systems that can understand the context from the given text data.
- AACL 2020 : Develop a hierarchical Transformer structure that utilizes extra context information to improve machine translation.
- CIKM 2019 : Propose a compare-aggregate model with latent space clustering for sentence-level answer-selection.
- ICASSP 2019, ICASSP 2020 : Propose attention mechanisms to exploit textual and acoustic data of an utterance for speech emotion classification.
- LREC 2020 : Propose a graph neural network for question answering system that propagates information over sentences to understand their context.

- **Machine Learning Algorithms**

- AACL 2019 : Design deep learning models and algorithms for logical inference. We show limitations and possibilities of neural network models in sequence transduction problems.
- ICML 2015, AISTATS 2018 : Present a Double Nyström approximation method for eigenvector computation that improves both accuracy and efficiency based on a new theoretical analysis of the one-shot Nyström method.
- SIGMETRICS 2015, PAKDD 2020 : Design an iterative correct-answer-inference algorithm for multiple-choice crowdsourcing systems, and prove its error optimality.
- UAI 2015 : Show how a generalization of parametric min-cut can be used for the problem of learning perturbation-based probabilistic models.
- PAMI 2014, ECCV 2010 : Design efficient algorithms for optimizing constrained submodular functions and apply them to image segmentation and clustering problems.
- NIPS 2007, NIPS 2009 : Present decentralized approximate inference algorithms for computing MAP and log-partition function of Markov Random Field.

- **Data Analysis and Web Services**

- AACL 2019 : Design algorithms to detect incongruity between news headlines and body text in online news media.
- PLOS ONE 2017, ICDM 2013 : Develop algorithms for rumor detection in online social media based on their structural and contextual properties.
- Physical Review E 2019 : Provide an efficient method to predict the spread size of information diffusion in social networks.
- European Physical Journal B 2016, European Physical Journal B 2015 : Prove conditions for phase transitions of information diffusion in complex networks.
- ICDE 2015 : Design a scalable and accurate algorithm for overlapping community detection.
- ICDM 2012 : Design a scalable and robust algorithm for influence maximization in social networks.
- STOC 2007, INFOCOM 2012, IEEE Transactions on Networking 2014 : Prove stability of the max-weight routing and scheduling algorithm for adversarial multicommodity dynamic queuing networks.

Honors and Awards

1. **Distinguished Doctoral Dissertation Award** (advisor of), Seoul National University, Aug. 2020.
2. **Best Paper of the Information Session**, International conference on Information and Knowledge Management (ICIKM), Jul. 2016.
3. **Distinguished Master's Dissertation Award** (advisor of), Seoul National University, Aug. 2015.
4. Winner of **the Excellent New Faculty Funding** from NRF Korea, *Analysis of Information Diffusion and Network Dynamics in Social Networks Based on Big Data Analytics*, 2012 - 2015.
5. **Honor Prize**, The 19th Samsung Electronics Humantech Thesis Prize (advisor of), Feb. 2013.
6. **Honor Prize**, The 18th Samsung Electronics Humantech Thesis Prize (advisor of), Feb. 2012.
7. Samsung Lee Kun Hee foundation scholarship for graduate study, Fall 2004 - Spring 2008.
8. *2nd* prize in the 18th Korean College Mathematics Competition awarded by Korean Mathematical Society, 1999.
9. **Gold medal** in the 36th IMO (International Mathematical Olympiad) in Toronto, Canada, 1995.
10. **Gold prize** in the 7th APMO (Asian Pacific Mathematical Olympiad), 1995.
11. **Gold prizes** in the 7th & 8th KMO (Korea Mathematical Olympiad) awarded by Korean Mathematical Society, 1994, 1995.

Publications

o Conference Publications

1. Yoonhyung Lee, Seunghyun Yoon, Kyomin Jung, *Multimodal Speech Emotion Recognition using Cross Attention with Aligned Audio and Text*, Interspeech, October 2020, Shanghai, China.
2. Joongbo Shin, Yoonhyung Lee, Seunghyun Yoon, Kyomin Jung, *Fast and Accurate Deep Bidirectional Language Representations for Unsupervised Learning*, Annual Meeting of the Association for Computational Linguistics (ACL), July 2020, Seattle, WA, USA.
3. Seunghyun Yoon, Franck Dernoncourt, Doo Soon Kim, Trung Bui, Kyomin Jung, *Propagate-Selector: Detecting Supporting Sentences for Question Answering via Graph Neural Networks*, International Conference on Language Resources and Evaluation (LREC), May 2020, Marseille, France.
4. Tien-Cuong Bui, Joonyoung Kim, Taewoo Kang, Donghyeon Lee, JunYoung Choi, Insoon Yang, Kyomin Jung, Sang Kyun Cha, *STAR: Spatio-Temporal Prediction of Air Quality Using A Multimodal Approach*, Intelligent Systems Conference (IntelliSys), Sep 2020, Amsterdam, Netherlands.
5. Joonyoung Kim, Donghyeon Lee, Kyomin Jung, *Reliable Aggregation Method for Vector Regression Tasks in Crowdsourcing*, Pacific-Asia Conference on Knowledge Discovery and Data Mining (PAKDD), May 2020, Singapore.
6. Heeyoung Kwak, Minwoo Lee, Seunghyun Yoon, Jooyoung Chang, Sangmin Park, Kyomin Jung, *Drug-disease Graph: Predicting Adverse Drug Reaction Signals via Graph Neural Network with Clinical Data*, Pacific-Asia Conference on Knowledge Discovery and Data Mining (PAKDD), May 2020, Singapore.

7. (Selected as Oral Presentation) Seunghyun Yoon, Subhadeep Dey, Hwanhee Lee, Kyomin Jung, *Attentive Modality Hopping Mechanism for Speech Emotion Recognition*, IEEE International Conference on Acoustics, Speech and Signal Processing(ICASSP), May 2020, Barcelona, Spain.
8. Hyeongu Yun, Yongkeun Hwang, Kyomin Jung, *Improving Context-Aware Neural Machine Translation Using Self-Attentive Sentence Embedding*, AAAI Conference on Artificial Intelligence (AAAI), Jan 2020, New York City, New York, USA.
9. Joongbo Shin, Yoonhyung Lee, Kyomin Jung, *Effective Sentence Scoring Method Using BERT for Speech Recognition*, Asian Conference on Machine Learning(ACML), Nov 2019, Nagoya, Japan.
10. (Selected as Oral Presentation) Seunghyun Yoon, Franck Dernoncourt, Doo Soon Kim, Trung Bui, Kyomin Jung, *A Compare-Aggregate Model with Latent Clustering for Answer Selection*, ACM International Conference on Information and Knowledge Management(CIKM), Nov 2019, Beijing, China.
11. (Selected as Oral Presentation) Seunghyun Yoon, Seokhyun Byun, Subhadeep Dey and Kyomin Jung, *Speech Emotion Recognition Using Multi-Hop Attention Mechanism*, IEEE International Conference on Acoustics, Speech and Signal Processing (ICASSP), May 2019, Brighton, UK.
12. Yanghoon Kim, Hwanhee Lee, Joongbo Shin, Kyomin Jung, *Improving Neural Question Generation using Answer Separation*, AAAI Conference on Artificial Intelligence (AAAI), Jan 2019, Honolulu, Hawaii, USA.
13. (Selected as Oral Presentation) Seunghyun Yoon, Kunwoo Park, Joongbo Shin, Hongjun Lim, Seungpil Won, Meeyoung Cha, Kyomin Jung, *Detecting Incongruity Between News Headline and Body Text via a Deep Hierarchical Encoder*, AAAI Conference on Artificial Intelligence (AAAI), Jan 2019, Honolulu, Hawaii, USA.
14. (Selected as Oral Presentation) Hyoungwook Nam, Segwang Kim, Kyomin Jung, *Number Sequence Prediction Problems and Computational Powers of Neural Network Models*, AAAI Conference on Artificial Intelligence (AAAI), Jan 2019, Honolulu, Hawaii, USA.
15. Seunghyun Yoon, Joongbo Shin, Kyomin Jung, *Learning to Rank Question-Answer Pairs using Hierarchical Recurrent Encoder with Latent Topic Clustering*, Annual Conference of the North American Chapter of the Association for Computational Linguistics (NAACL), June 2018, New Orleans, LA, USA.
16. (Selected as Oral Presentation) Woosang Lim, Bo Dai, Rundong Du, Kyomin Jung, Le Son, Haesun Park, *Multi-scale Nystrom Method*, International Conference on Artificial Intelligence and Statistics (AISTATS), April 2018, Lanzarote, Canary Islands.
17. Joongbo Shin, Yanghoon Kim, Seunghyun Yoon, Kyomin Jung, *Contextual-CNN: A Novel Architecture Capturing Unified Meaning for Sentence Classification*, IEEE International Conference on Big Data and Smart Computing (BigComp), Jan 2018, Shanghai, China.
18. Seunghyun Yoon, Pablo Estrada, Kyomin Jung, *Synonym Discovery with Etymology-based Word Embeddings*, IEEE Symposium Series on Computational Intelligence (SSCI), Nov 2017, Hawaii, USA.
19. Seunghyun Yoon, Mohan Sundar, Abhishek gupta, Kyomin Jung, *Automatic Question Answering System for Consumer Products*, the SAI Intelligent Systems Conference (IntelliSys), Sep 2016, London, UK.
20. (Best paper of the information session) Pablo Estrada, Kyomin Jung, *Knowledge extraction through etymological networks: Synonym discovery in sino-korean words*, the 5th International conference on Information and Knowledge Management (ICKM) July, 2016, Beijing, China.

21. (Selected as Oral Presentation) Adrian Kim, Kyomin Jung, Daniel Tarlow, and Pushmeet Kohli, *Minimizing Expected Losses in Perturbation Models with Multidimensional Parametric Min-cuts*, Conference on Uncertainty in Artificial Intelligence (UAI), July 2015, Amsterdam, Netherlands.
22. Woosang Lim, Minhwan Kim, Haesun Park, and Kyomin Jung, *Double Nystrom Method: An Efficient and Accurate Nystrom Scheme for Large-Scale Data Sets*, International Conference on Machine Learning (ICML), July 2015, Lille, France.
23. Donghyeon Lee, Joonyoung Kim, Hyunmin Lee, Kyomin Jung, *Reliable Multiple-choice Iterative Algorithm for Crowdsourcing Systems*, ACM SIGMETRICS, Jun 2015, Portland, OR, USA.
24. Sungsu Lim, Seungwoo Ryu, Sejeong Kwon, Kyomin Jung, Jae-Gil Lee, *LinkSCAN*: Overlapping Community Detection Using the Link-Space Transformation*, IEEE International Conference on Data Engineering (ICDE), Apr 2014, Chicago, IL, USA.
25. Yishi Lin, John C.S. Lui, Kyomin Jung, Sungsu Lim, *Modeling Multi-state Diffusion Process in Complex Networks: Theory and Applications*, International Conference on Signal Image Technology and Internet Based Systems (SITIS), Dec 2013, Kyoto, Japan.
26. Sejeong Kwon, Meeyoung Cha, Kyomin Jung, Wei Chen, and Yajun Wang, *Prominent Features of Rumor Propagation in Online Social Media*, IEEE International Conference on Data Mining (ICDM), Dec 2013, Dallas, TX, USA.
27. Sejeong Kwon, Meeyoung Cha, Kyomin Jung, Wei Chen and Yajun Wang, *Aspects of Rumor Spreading on a Microblog Network*, The 5th International Conference on Social Informatics (SocInfo), Nov 2013, Kyoto, Japan.
28. Yongsub Lim and Kyomin Jung, *Decentralized Control for Intelligent Robot System to Avoid Moving Obstacles*, International Conference on Intelligent Systems, Modeling and Simulation (ISMS), Jan 2013, Thailand.
29. Kyomin Jung, Wooram Heo, and Wei Chen, *IRIE: Scalable and Robust Influence Maximization in Social Networks*, IEEE International Conference on Data Mining (ICDM), Dec 2012, Brussels, Belgium.
30. Kyomin Jung, Bo Young Kim, and Milan Vojnovic, *Distributed Ranking in Networks with Limited Memory and Communication*, IEEE International Symposium on Information Theory (ISIT), July 2012, Cambridge, MA, USA.
31. Sungsu Lim, Kyomin Jung and Matthew Andrews, *Stability of the Max-Weight Protocol in Adversarial Wireless Networks*, IEEE International Conference on Computer Communications (INFOCOM), Mar 2012, Orlando, FL, USA.
32. Yongsub Lim, Kyomin Jung and Pushmeet Kohli, *Energy Minimization Under Constraints on Label Counts*, European Conference on Computer Vision (ECCV), Sep 2010, Crete, Greece.
33. Arnab Bhattacharyya, Elena Grigorescu, Madhav Jha, Kyomin Jung, Sofya Raskhodnikova and David Woodruff, *Lower Bounds for Local Monotonicity Reconstruction from Transitive-Closure Spanners*, International Workshop on Randomization and Computation (RANDOM), Sep 2010, Barcelona, Spain.
34. SeongHun Lee, Min Su Cho, Kyomin Jung, and Jin Hyung Kim, *Scene Text Extraction with Edge Constraint and Text Collinearity*, International Conference on Pattern Recognition (ICPR), Aug 2010, Istanbul, Turkey.
35. Yoram Bachrach, Reshef Meir, Kyomin Jung, and Pushmeet Kohli, *Coalitional Structure Generation in Skill Games*, Proceedings of AAAI-10, July 2010, Atlanta, USA.
36. Kyomin Jung, Pushmeet Kohli and Devavrat Shah, *Local Rules for Global MAP: When Do They Work ?*, Annual Conference on Neural Information Processing Systems (NIPS), Dec 2009, Vancouver, Canada.

37. Arnab Bhattacharyya, Elena Grigorescu, Kyomin Jung, Sofya Raskhodnikova and David Woodruff, *Transitive-Closure Spanners of the Hypercube and the Hypergrid*, Electronic Colloquium on Computational Complexity (ECCC), TR09-046, May 2009.
38. Ramakrishna Gummadi, Kyomin Jung, Devavrat Shah and Ramavarapu Sreenivas, *Computing Capacity Region of a Wireless Network*, IEEE International Conference on Computer Communications (INFOCOM), Apr 2009, Rio De Janeiro, Brazil.
39. Arnab Bhattacharyya, Elena Grigorescu, Kyomin Jung, Sofya Raskhodnikova and David Woodruff, *Transitive-Closure Spanners*, ACM-SIAM Symposium on Discrete Algorithms (SODA), Jan 2009, New York, NY, USA.
40. Sung-Soon Choi, Kyomin Jung and Jeong Han Kim, *Almost Tight Upper Bound for Finding Fourier Coefficients of Bounded Pseudo-Boolean Functions*, The Annual Conference on Learning Theory (COLT), July 2008, Helsinki, Finland.
41. Kyomin Jung, Yingdong Lu, Devavrat Shah, Mayank Sharma and Mark S. Squillante, *Revisiting Stochastic Loss Networks: Structures and Algorithms*, ACM International Conference on Measurement and Modeling of Computer Systems (SIGMETRICS), Jun 2008, Annapolis, ML, USA.
42. Ramakrishna Gummadi, Kyomin Jung, Devavrat Shah and Ramavarapu Sreenivas, *Feasible Rate Allocation in Wireless Networks*, IEEE International Conference on Computer Communications (INFOCOM), Apr 2008, Phoenix, AZ, USA.
43. Kyomin Jung and Devavrat Shah, *Local Algorithms for Approximate Inference in Minor-Excluded Graphs*, Annual Conference on Neural Information Processing Systems (NIPS), Dec 2007, Vancouver, Canada.
44. Kyomin Jung and Devavrat Shah, *Low Delay Scheduling in Wireless Network*, IEEE International Symposium on Information Theory (ISIT), Jun 2007, Nice, France.
45. Matthew Andrews, Kyomin Jung and Alexander Stolyar *Stability of the Max-Weight Routing and Scheduling Protocol in Dynamic Networks and at Critical Loads*, ACM Symposium on Theory of Computing (STOC), Jun 2007, San Diego, CA, USA.
46. Sung-Soon Choi, Kyomin Jung and Jeong Han Kim, *Phase Transition in a Random NK Landscape Model*, ACM Genetic and Evolutionary Computation Conference (GECCO), Jun 2005, Washington DC, USA.

◦ Journal Publications

1. (SCIE, IF 2.16) Seokhyun Byun, Seunghyun Yoon, Kyomin Jung, *Comparative Studies on Machine Learning for Paralinguistic Signal Compression and Classification*, *Journal of Supercomputing*, 2020.
2. (SCI, IF 2.296) Byeongjin Choe, Yishi Lin, Sungsu Lim, John C. S. Lui, Kyomin Jung, *Efficient spread-size approximation of opinion spreading in general social networks*, *Physical Review E*, 2019.
3. (SCIE, IF 0.786) Yongkeun Hwang, Donghyeon Lee, and Kyomin Jung, *Mobile App Recommendation with Sequential App Usage Behavior Tracking*, *Journal of Internet Technology (JIT)*, 2018.
4. (SCIE, IF 0.786) Heeyoung Kwak, Joonyoung Kim, Yongsub Lim, Shin-Kap Han, and Kyomin Jung, *Centrality Fairness: Measuring and Analyzing Structural Inequality of Online Social Network*, *Journal of Internet Technology (JIT)*, Dec 2017.
5. (SCIE, IF 2.740) Woosang Lim, Jungsoo Lee, Yongsub Lim, Doo-Hwan Bae, Haesun Park, Dae-Shik Kim, and Kyomin Jung, *Hierarchical Ordering with Partial Pairwise Hierarchical Relationships on the Macaque Brain Data Sets*, *PLOS ONE*, May 2017.

6. (SCIE, IF 2.740) Sejeong Kwon, Meeyoung Cha, and Kyomin Jung, *Rumor Detection over Varying Time Windows*, *PLOS ONE*, January 2017.
7. (SCI, IF 1.440) Sungsu Lim, Joongbo Shin, Namju Kwak, and Kyomin Jung, *Phase transitions for information diffusion in random clustered networks*, *European Physical Journal B*, September 2016.
8. (SCI, IF 1.440) Sungsu Lim, Inwoo Jung, Seulki Lee, and Kyomin Jung, *Analysis of Information Diffusion for Threshold Models on Arbitrary Networks*, *European Physical Journal B*, June 2015.
9. (SCIE, IF 1.830) Yishi Lin, John C.S. Lui, Kyomin Jung, and Sungsu Lim, *Modelling Multi-state Diffusion Process in Complex Networks: Theory and Applications*, *Journal of Complex Networks*, 2014.
10. (SCI, IF 2.186) Sungsu Lim, Kyomin Jung, and Matthew Andrews, *Stability of the Max-Weight Protocol in Adversarial Wireless Networks*, *IEEE Transactions on Networking*, vol.22, n.6, 2014.
11. (SCI, IF 17.861) Yongsub Lim, Kyomin Jung, and Pushmeet Kohli, *Efficient Energy Minimization for Enforcing Statistics*, *IEEE Transactions on Pattern Analysis and Machine Intelligence (PAMI)*, vol. 36, n.9, 2014.
12. (SCI, IF 3.822) Sang-Woon Jeon, Kyomin Jung, and Hyunseok Chang, *Fully Distributed Algorithms for Minimum Delay Routing Under Heavy Traffic*, *IEEE Transactions on Mobile Computing*, v.13, n.5, 2014.
13. (SCI, IF 0.762) Arnab Bhattacharyya, Elena Grigorescu, Kyomin Jung, Sofya Raskhodnikova and David Woodruff, *Transitive-Closure Spanners*, *SIAM Journal on Computing*, 2012.
14. (SCI, IF 0.578) Arnab Bhattacharyya, Elena Grigorescu, Madhav Jha, Kyomin Jung, Sofya Raskhodnikova and David Woodruff, *Lower Bounds for Local Monotonicity Reconstruction from Transitive-Closure Spanners*, *SIAM Journal on Discrete Mathematics*, v.26, n.2, 618-646, 2012.
15. (SCI, IF 1.091) Sung-Soon Choi, Kyomin Jung and Jeong Han Kim, *Almost Tight Upper Bound for Finding Fourier Coefficients of Bounded Pseudo-Boolean Functions*, *Journal of Computer and System Sciences*, v.77, n.6, 1036-1053, 2011.
16. (SCI, IF 2.650) Kyomin Jung, Devavrat Shah and Jinwoo Shin, *Minimizing the Rate of Convergence for Iterative Algorithms*, *IEEE Transactions on Information Theory*, v.56, n.1, 634-647, 2010.
17. (SCI, IF 0.479) Elena Grigorescu, Kyomin Jung and Ronitt Rubinfeld, *A Local Decision Test for Sparse Polynomials*, *Information Processing Letters*, v.110, n.20, 898-901, 2010.
18. (SCI, IF 5.545) Sung-Soon Choi, Kyomin Jung and Byung-Ro Moon, *Lower and Upper Bounds for Linkage Discovery*, *IEEE Transactions on Evolutionary Computation*, v.13, n.2, 201-216, 2009.
19. (SCI, IF 3.371) Sung-Soon Choi, Kyomin Jung and Jeong Han Kim, *Phase Transition in a Random NK Landscape Model*, *Artificial Intelligence* 172(2-3): 179-203, 2008.

○ **Peer-Reviewed Workshop Publications**

1. Hwanhee Lee, Seunghyun Yoon, Franck Dernoncourt, Doo Soon Kim, Trung Bui, Kyomin Jung, *DSTC8-AVSD: Multimodal Semantic Transformer Network with Retrieval Style Word Generator*, AAI Workshop on Dialog System Technology Challenge(DSTC), Jan 2020, New York City, NY, USA.
2. Jiin Nam, Seunghyun Yoon, Kyomin Jung, *Surf at MEDIQA 2019: Improving Performance of Natural Language Inference in the Clinical Domain by Adopting Pre-trained Language Model*, ACL Workshop on BioNLP, Aug 2019, Florence, Italy.

3. Hwanhee Lee and Kyomin Jung, *Insensibility of Question Word Order in Visual Question Answering*, NAACL Workshop on Shortcomings in Vision and Language (SiVL), June 2019, Minneapolis, MN, USA.
4. Seunghyun Yoon, Seokhyun Byun and Kyomin Jung, *Multimodal Speech Emotion Recognition using Audio and Text*, IEEE Workshop on Spoken Language Technology (SLT), Dec 2018, Athens, Greece.
5. Younghun Lee, Seunghyun Yoon and Kyomin Jung, *Comparative Studies of Detecting Abusive Language on Twitter*, EMNLP Workshop on Abusive Language Online, Nov 2018, Brussels, Belgium.
6. Yanghoon Kim, Hwanhee Lee, Kyomin Jung, *AttnConvnet at SemEval-2018-Task 1: Attention-based Convolutional Neural Networks for Multi-label Emotion Classification*, NAACL Workshop on Semantic Evaluation (SemEval), June 2018, New Orleans, LA, USA.
7. Woosang Lim, Rundong Du, Bo Dai, Kyomin Jung, Le Song, Haesun Park, *Multi-scale Nystrom Method*, NIPS Workshop on Optimization for Machine Learning (OPT), Dec 2017, Long Beach CA, USA.
8. Seunghyun Yoon, Hyeongu Yun, Yuna Kim, Gyu-tae Park and Kyomin Jung, *Efficient Transfer Learning Schemes for Personalized Language Modeling using Recurrent Neural Network*, AAAI Workshop on Crowdsourcing, Deep Learning and Artificial Intelligence Agents, Feb 2017, San Francisco CA, USA.
9. Adrian Kim, Kyomin Jung, Daniel Tarlow, and Pushmeet Kohli, *Computing Expected Losses in Perturbation Models using Multidimensional Parametric Min-cuts*, NIPS Workshop on Perturbations, Optimization, and Statistics (POS), Dec 2014, Montreal, Canada.
10. Byungkon Kang, and Kyomin Jung, *Robust and Efficient Locality Sensitive Hashing for Nearest Neighbor Search in Large Data Sets*, NIPS Workshop on Big Learning (BigLearn) Dec 2012, Lake Tahoe, Nevada, USA.
11. Sungsu Lim, and Kyomin Jung, *Generalized Mean-Field Approximation for Opinion Spreading in Social Networks*, Interdisciplinary Workshop on Information and Decision in Social Networks (WIDS), Nov 2012, MIT, Cambridge MA, USA.
12. Sungsu Lim, Namju Kwak, and Kyomin Jung, *Phase Transitions for Information Spreading in Random Clustered Networks with Arbitrary Contact Rates*, Interdisciplinary Workshop on Information and Decision in Social Networks (WIDS), Nov 2012, MIT, Cambridge MA, USA.
13. Kyomin Jung, Wooram Heo, and Wei Chen, *IRIE: Scalable and Robust Influence Maximization in Social Networks*, Interdisciplinary Workshop on Information and Decision in Social Networks (WIDS), Nov 2012, MIT, Cambridge MA, USA.
14. Jungsoo Lee, Yongsub Lim, Woosang Lim, Kyomin Jung, and Dae-Shik Kim, *Hierarchical analysis in the human brain connectivity networks*, Society for Neuroscience, Oct 2012, New Orleans, USA.
15. Sungsu Lim, Namju Kwak, and Kyomin Jung, *Phase Transitions for Information Spreading in Random Clustered Networks with Arbitrary Contact Rates*, 2012 Workshop on Information in Networks (WIN), Sep 2012, NYU, New York, USA.
16. Kyomin Jung, Seulki Lee, and Sungsu Lim, *Analysis of Information Diffusion on Threshold Models in Arbitrary Social Networks*, 2012 Workshop on Information in Networks (WIN), Sep 2012, NYU, New York NY, USA.
17. Kyomin Jung, Wooram Heo, and Wei Chen, *IRIE: Scalable and Robust Influence Maximization in Social Networks*, 2012 Workshop on Information in Networks (WIN), Sep 2012, NYU, New York NY, USA.
18. Hyuna Kim, Seulki Lee, and Kyomin Jung, *Analysis of Tipping Points for Threshold Models on Arbitrary Networks*, 3rd Workshop on Complex Networks (CompleNet), Mar 2012, FL, USA.

19. Sungsu Lim and Kyomin Jung, *Tipping Point of Information Spreading in Random Clustered Networks with Heterogeneous Contact Rates*, 3rd Workshop on Complex Networks (CompleNet), Mar 2012, FL, USA.
20. Kyomin Jung, Wooram Heo, and Wei Chen, *IRIE: A Scalable Influence Maximization Algorithm in Social Networks*, 3rd Workshop on Complex Networks (CompleNet), Mar 2012, FL, USA.
21. Yongsub Lim, Kyomin Jung, and Pushmeet Kohli, *Constrained Discrete Optimization via Dual Space Search*, NIPS Workshop on Discrete Optimization on Machine Learning (DISCML), Dec 2011, Spain.
22. Byungkon Kang, Woosang Lim, and Kyomin Jung, *Scalable Kernel k-Means via Centroid Approximation*, NIPS Workshop on Big Learning (BigLearn), Dec 2011, Spain.
23. Kyomin Jung, Boyoung Kim, and Milan Vojnovic, *Parsimonious Algorithms for Decentralized Ranking in Social Networks*, Interdisciplinary Workshop on Information and Decision in Social Networks (WIDS), May 2011, MA, USA.
24. Seulki Lee, Hyuna Kim, and Kyomin Jung, *Analysis of Tipping Points in Social Networks for Diffusion of Innovations*, Interdisciplinary Workshop on Information and Decision in Social Networks (WIDS), May 2011, MA, USA.
25. Kyomin Jung, Devavrat Shah and Jinwoo Shin, *Fast and Slim Lifted Markov Chains*, ALLERTON Conference on Communication, Control and Computing, Sep 2007, Monticello IL, USA.
26. Kyomin Jung and Devavrat Shah, *Local Approximate Inference Algorithms*, ALLERTON Conference on Communication, Control and Computing, Sep 2007, Monticello IL, USA.
27. Kyomin Jung and Devavrat Shah, *Fast Gossip via Non-reversible Random walk*, IEEE Information Theory Workshop (ITW), Mar 2006, Punta del Este, Uruguay.
28. Kyomin Jung and Devavrat Shah, *On Computationally Bounded Adversarial Capacity*, Information Theory and Application Workshop (ITA), Feb 2006, San Diego, CA, USA.

Academic Services

- Technical Program Committee of AAAI Conference on Artificial Intelligence (AAAI) 2021.
- Technical Program Committee of Conference on Empirical Methods in Natural Language Processing (EMNLP) 2020.
- Technical Program Committee (Reviewer) of International Conference on Machine Learning (ICML) 2020.
- Technical Program Committee (Reviewer) of Annual Meeting of the Association for Computational Linguistics (ACL) 2020.
- Technical Program Committee of AAAI Conference on Artificial Intelligence (AAAI) 2020.
- Technical Program Committee of IEEE International Conference on Data Mining (ICDM) 2019.
- Reviewer of IEEE Transactions on Pattern Analysis and Machine Intelligence (PAMI) 2018.
- Editor in Chief, The Journal of Korean Institute of Communications and Information Sciences 2015-2016.
- Technical Program Committee of ACM SIGMETRICS 2015.
- Tutorial Talk “Deep Learning for the Web” at the WWW, Florence, Italy, May 2015.
- Organizer of the International Workshop on Open Big Data Foundation at IEEE International Conference on Data Engineering (ICDE) 2015.
- Program Committee Member of WWW 2014 Demo Track.
- Editor in Chief, Korea Information Processing Society Review 2014-2015.
- Program Committee Member of WWW 2013 Demo Track.
- Program Committee Member of ACM KDD workshop, Mining Data Semantics in Information Networks, 2012.
- Organizer of the 2012 Summer School on Social Network Analysis, KAIST, Korea, Aug 2012.
- Organizer of the 2012 International Social Web Workshop, Ramada hotel Jeju, Korea, Aug 2012.
- Organizer of the 2011 Summer School on Social Network Analysis, Daejeon, Korea, Aug 2011.
- Program Committee Member of IEEE Globecom 2010.
- Program Committee Member of PSIVT 2010.
- Organizer of the Winter School on Algorithm and Combinatorics, Jochiwon, Korea, Jan 2010.