JAESIK CHOI – Curriculum Vitae



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Education

- University of Illinois at Urbana-Champaign, Ph.D. in Computer Science, May 2012. Thesis title: *Lifted Inference for Relational Hybrid Models* (Advisor: Eyal Amir).
- Seoul National University, B.S. in Computer Engineering, magna cum laude, August 2004.

Positions

- Professor, Graduate School of Artificial Intelligence, KAIST, September 2024 present.
- Associate Professor, Graduate School of Artificial Intelligence, KAIST, September 2019 August 2024.
- CEO, INEEJI Corporation, January 2019 present.
- Associate Professor, School of Electrical and Computer Engineering, UNIST, September 2017 August 2019.
- Assistant Professor, School of Electrical and Computer Engineering, UNIST, July 2013 August 2017.
- Postdoctoral Fellow, Lawrence Berkeley National Laboratory, January 2013 July 2013.
- **Postdoctoral Research Associate**, University of Illinois at Urbana-Champaign, May 2012 January 2013.
- KAIST Endowed Chair Professor, KAIST, March 2025 present.
- Associate Member, The National Academy of Engineering of Korea, January 2025 present.
- **Director**, Explainable Artificial Intelligence Center, KAIST/UNIST, Ministry of Science and ICT, July 2017 present.
- **Director**, Seongnam Research Center, Graduate School of Artificial Intelligence, KAIST, January 2020 present.
- Research Affiliate, Lawrence Berkeley National Laboratory, July 2013 October 2018.
- POSCO Steel Professor, POSCO, August 2017 July 2020.

Honors and Awards

- KAIST Q-Day Award, QAIST Trust, December 2024.
- Minister's Award (The first place in the 2022 Gyeonggi Startup competition), Ministry of SMEs and Startups Award, 2022.
- **KAIST Breakthroughs**, Automatic Corrections of Deep Neural Networks, School of Engineering, KAIST, September 2021.
- POSCO Open and Collaboration (O&C) Award, POSCO, August 2021.

- National Core Technology of Korea, Deep Learning based Smart Blast Furnace Technology, Ministry of Trade, Industry and Energy, 2019.
- Prime Minister's Commendation, Contributions to build new AI technologies, 2019.
- Rising Star Distinguished Professor, UNIST, September 2018 August 2019.
- POSCO Smart Innovation Award, POSCO, August 2018.
- **The Appreciation Award**, Deep Learning based Diagnosis of Coal-Fired Boiler, Korea East-West Power, April 2019.
- **The Appreciation Award**, Deep Learning based Estimation of Hot Metal Temperature of Blast Furnace, POSCO, July 2017.
- Winner (the first place), Electricity Generation AI Competition, Korea East-West Power, December 2020.
- Winner (the first place), UEC-cup Digital Curling Competition, Game AI Tournament, March 2018.
- Winner (the first place), Digital Curling Competition, Game Playing Workshop, November 2017.
- **The Best Paper Award**, International Conference on Big Data Intelligence and Computing (Data-Com), IEEE Computing Society, 2015.
- Cognitive Science/Artificial Intelligence Award, Beckman Institute, University of Illinois, 2009.

Representative Papers

- Giyoung Jeon, Haedong Jeong and **Jaesik Choi**, *Distilled Gradient Aggregation: Purify Features for Input Attribution in the Deep Neural Network*, Conference on Neural Information Processing Systems (NeurIPS), 2022.
- Ali Tousi, Haedong Jeong, Jiyeon Han and **Jaesik Choi**, *Automatic Correction of Internal Units in Generative Neural Networks*, IEEE/CVF Conference on Computer Vision and Pattern Recognition (CVPR), 2021.
- David Gunning, Mark Stefik, **Jaesik Choi**, Timothy Miller, Simone Stumpf and Guang-Zhong Yang, *XAI Explainable Artificial Intelligence*, in **Science Robotics**, 4(37), 2019.
- Anh Tong and Jaesik Choi, *Discovering Latent Covariance Structures for Multiple Time Series*, in International Conference on Machine Learning (ICML), 2019.
- Kyowoon Lee, Sol-A Kim, **Jaesik Choi** and Seong-Hwan Lee, *Deep Reinforcement Learning in Continuous Action Spaces: a Case Study in the Game of Simulated Curling*, in International Conference on Machine Learning (**ICML**), 2018.
- Yunseong Hwang, Anh Tong and **Jaesik Choi**, *The Automatic Statistician: A Relational Perspective*, in International Conference on Machine Learning (ICML), 2016.
- Jaesik Choi, Eyal Amir, Tianfan Xu, and Albert Valocchi. *Learning Relational Kalman Filtering*, in AAAI Conference on Artificial Intelligence (AAAI), 2015.
- Jaesik Choi, Ziyu Wang, Sang-Chul Lee and Won J. Jeon, *A Spatio-Temporal Pyramid Matching for Video Retrieval*, in Computer Vision and Image Understanding (CVIU), 117(6), 2013, 660-669.
- Jaesik Choi, Abner Guzman-Rivera, and Eyal Amir, *Lifted Relational Kalman Filtering*, in International Joint Conference on Artificial Intelligence (IJCAI), 2011.
- Jaesik Choi, David J. Hill, and Eyal Amir, *Lifted Inference for Relational Continuous Models*, in Conference on Uncertainty in Artificial Intelligence (UAI), 2010.

Papers

Conference¹²³⁴

- [1] Artyom Stitsyuk and Jaesik Choi^{**}, *xPatch: Dual-Stream Time Series Forecasting with Exponential Seasonal-Trend Decomposition*, AAAI Conference on Artificial Intelligence (AAAI), 2025.
- [2] Subeen Lee[†], Jiyeon Han[†], Soyeon Kim and **Jaesik Choi**^{**}, *Diverse Rare Sample Generation with Pretrained GANs*, AAAI Conference on Artificial Intelligence (AAAI), 2025.
- [3] Jihyeon Seong, Sekwang Oh and Jaesik Choi^{**}, *Towards Dynamic Trend Filtering through Trend Point Detection with Reinforcement Learning*, International Jointe Conference on Artificial Intelligence (IJCAI), 2024.
- [4] Bumjin Park and **Jaesik Choi**^{**}, *Memorizing Documents with Guidance in Large Language Models*, International Jointe Conference on Artificial Intelligence (**IJCAI**), 2024.
- [5] Seongwoo Lim, Won Jo, Joohyung Lee and **Jaesik Choi****, *Pathwise Explanation of ReLU Neural Networks*, International Conference on Artificial Intelligence and Statistics (AISTATS), 2024.
- [6] Jihyeon Seong, Jungmin Kim and Jaesik Choi^{**}, *Towards Diverse Perspective Learning with Select over Multiple Temporal Poolings*, AAAI Conference on Artificial Intelligence (AAAI), 2024.
- [7] Wonjoon Chang[†], Dahee Kwon[†] and Jaesik Choi^{**}, Understanding Distributed Representations of Concepts in Deep Neural Networks without Supervision, AAAI Conference on Artificial Intelligence (AAAI), 2024.
- [8] Cheongwoong Kang and Jaesik Choi^{**}, Impact of Co-occurrence on Factual Knowledge of Large Language Models, Conference on Findings of Empirical Methods in Natural Language Processing (Findings of EMNLP), 2023.
- [9] Ye Eun Chun, Sunjae Kwon, Kyunghwan Sohn, Nakwon Sung, Junyoup Lee, Byoung Ki Seo, Kevin Compher, Seung-won Hwang and Jaesik Choi, CR-COPEC: Causal Rationale of Corporate Performance Changes to learn from Financial Reports, Conference on Findings of Empirical Methods in Natural Language Processing (Findings of EMNLP), 2023.
- [10] Anh Tong, Thanh Nguyen-Tang, Dongeun Lee, Toan Tran and Jaesik Choi, *SigFormer: Signature Transformers for Deep Hedging*, Association for Computing Machinery International Conference on Artificial Intelligence in Finance (ACM ICAIF), 2023.
- [11] Kyowoon Lee[†], Seongun Kim[†] and Jaesik Choi, Refining Diffusion Planner for Reliable Behavior Synthesis by Automatic Detection of Infeasible Plans, Conference on Neural Information Processing Systems (NeurIPS), 2023.
- [12] Soyeon Kim, Junho Choi, Yeji Choi, Subeen Lee, Artyom Stitsyuk, Minkyoung Park, Seongyeop Jeong, Youhyun Baek and Jaesik Choi, *Explainable AI-Based Interface System for Weather Forecast-ing Model*, International Conference on Human-Computer Interaction International (HCII), 2023.
- [13] Giyoung Jeon, Haedong Jeong and Jaesik Choi, Beyond Single Path Integrated Gradients for Reliable Input Attribution via Randomized Path Sampling, The IEEE/CVF International Conference on Computer Vision (ICCV), 2023.
- [14] Seongun Kim[†], Kyowoon Lee[†] and Jaesik Choi^{**}, Variational Curriculum Reinforcement Learning for Unsupervised Discovery of Skills, International Conference on Machine Learning (ICML), 2023.
- [15] Jiyeon Han, Hwanil Choi, Yunjey Choi, Junho Kim, Jung-Woo Ha and Jaesik Choi**, Rarity Score

^{1†} Contributed equally

²* Corresponding author

³** The corresponding author and the advisor of the first author.

⁴[‡] The advisor of the first author.

: A New Metric to Evaluate the Uncommonness of Synthesized Images, International Conference on Learning Representations (ICLR), 2023.

- [16] Kyowoon Lee[†], Seongun Kim[†] and Jaesik Choi**, Adaptive and Explainable Deployment of Navigation Skills via Hierarchical Deep Reinforcement Learning, International Conference on Robotics and Automation (ICRA), 2023.
- [17] Anh Tong, Thanh Nguyen-Tang, Toan Tran and Jaesik Choi**, Learning Fractional White Noises in Neural Stochastic Differential Equations, Conference on Neural Information Processing Systems (NeurIPS), 2022.
- [18] Giyoung Jeon[†], Haedong Jeong[†] and Jaesik Choi^{**}, Distilled Gradient Aggregation: Purify Features for Input Attribution in the Deep Neural Network, Conference on Neural Information Processing Systems (NeurIPS), 2022.
- [19] Hwanil Choi, Wonjoon Chang and Jaesik Choi**, Can We Find Neurons that Cause Unrealistic Images in Deep Generative Networks?, International Joint Conference on Artificial Intelligence (IJCAI), 2022.
- [20] Haedong Jeong, Jiyeon Han and Jaesik Choi**, An Unsupervised Way to Understand Artifact Generating Internal Units in Generative Neural Networks, AAAI Conference on Artificial Intelligence (AAAI), 2022.
- [21] Seongun Kim, Jaesik Choi**, Explaining the Decisions of Deep Policy Networks for Robotic Manipulations, IEEE/RSJ International Conference on Intelligent Robots and Systems (IROS), 2021.
- [22] Sohee Cho[†], Wonjoon Chang[†], Ginkyeng Lee and Jaesik Choi^{**}, Interpreting Internal Activation Patterns in Deep Temporal Neural Networks by Finding Prototypes, ACM SIGKDD Conference on Knowledge Discovery and Data Mining (KDD), 2021.
- [23] Boseon Yoo, Jiwoo Lee, Janghoon Ju, Seijun Chung, Soyeon Kim and Jaesik Choi**, Conditional Temporal Neural Processes with Covariance Loss, International Conference on Machine Learning (ICML), 2021.
- [24] Ali Tousi[†], Haedong Jeong[†], Jiyeon Han and Jaesik Choi^{**}, Automatic Correction of Internal Units in Generative Neural Networks, IEEE/CVF Conference on Computer Vision and Pattern Recognition (CVPR), 2021.
- [25] Anh Tong, Toan Tran, Hung Bui and Jaesik Choi^{**}, Learning Compositional Sparse Gaussian Processes with a Shrinkage Prior, in AAAI Conference on Artificial Intelligence (AAAI), 2021.
- [26] Anh Tong and Jaesik Choi^{**}, *Characterizing Deep Gaussian Processes via Nonlinear Recurrence Systems*, in AAAI Conference on Artificial Intelligence (AAAI), 2021.
- [27] Woo Jeoung Nam, Jaesik Choi and Seong-Whan Lee**, Interpreting Deep Neural Networks with Relative Sectional Propagation by Analyzing Comparative Gradients and Hostile Activations, in AAAI Conference on Artificial Intelligence (AAAI), 2021.
- [28] Youngjin Park, Deokjun Eom, and Jaesik Choi^{**}, *Improved Predictive Deep Temporal Neural Networks with Trend Filtering*, in ACM International Conference on AI in Finance (ICAIF), 2020.
- [29] Jay H. Park, Gyeongchan Yun, Chang M. Yi, Nguyen T. Nguyen, Seungmin Lee, Jaesik Choi, Sam H. Noh and Young-ri Choi^{**}, *HetPipe: Enabling Large DNN Training on (Whimpy) Heterogeneous GPU Clusters through Integration of Pipelined Model Parallelism and Data Parallelism*, in USENIX Annual Technical Conference (USENIX ATC), 2020.
- [30] YongHyeok Seo, Dongju Shin, Jaesik Choi and Se Young Chun**, A Single Multi-Task Deep Neural Network with Post-Processing for Object Detection with Reasoning and Robotic Grasp Detection, in International Conference on Robotics and Automation (ICRA), 2020.
- [31] Giyoung Jeon[†], Haedong Jeong[†] and Jaesik Choi^{**}, An Efficient Explorative Sampling Considering

the Generative Boundaries of Deep Generative Neural Networks, in AAAI Conference on Artificial Intelligence (AAAI), 2020.

- [32] Woo-Jeoung Nam, Shir Gur, Jaesik Choi, Lior Wolf, Seong-Whan Lee^{**}, *Relative Attributing Propagation: Interpreting the Comparative Contributions of Individual Units in Deep Neural Networks*, in AAA Conference on Artificial Intelligence (AAAI), 2020.
- [33] Jiyeon Han[†], Kyowoon Lee[†], Anh Tong and Jaesik Choi^{**}, Confirmatory Bayesian Online Change Point Detection in the Covariance Structure of Gaussian Processes, in the International Joint Conference on Artificial Intelligence (IJCAI), 2019. ([†] contributed equally)
- [34] Anh Tong and Jaesik Choi^{**}, *Discovering Latent Covariance Structures for Multiple Time Series*, in International Conference on Machine Learning (ICML), 2019.
- [35] Kyowoon Lee[†], Sol-A. Kim[†], Jaesik Choi^{**} and Seong-Whan Lee, *Deep Reinforcement Learning in Continuous Action Spaces: a Case Study in the Game of Simulated Curling*, in the International Conference on Machine Learning (ICML), 2018. ([†] contributed equally)
- [36] Man-Ki Yoon, Sibin Mohan, Jaesik Choi, Mihai Christodorescu and Lui Sha**, Learning Execution Contexts from System Call Distribution for Anomaly Detection in Smart Embedded System, in the ACM/IEEE International Conference on Internet-of-Things Design and Implementation (IoTDI), 2017.
- [37] Vladimir Nekrasov, Janghoon Ju and Jaesik Choi**, *Global Deconvolutional Networks for Semantic Segmentation*, in British Machine Vision Conference (BMVC), 2016.
- [38] Dongeun Lee, Alex Sim, Jaesik Choi[‡] and John Wu^{**}, Novel Data Reduction Based on Statistical Similarity, in the International Conference on Scientific and Statistical Database Management (SS-DBM), 2016.
- [39] Dongeun Lee, Rafael de Lima and **Jaesik Choi**^{**}, *Learning Imprecise Compressive Sensing Models*, in Conference on Uncertainty in Artificial Intelligence (UAI), 2016.
- [40] Yunseong Hwang, Anh Tong and Jaesik Choi**, Automatic Construction of Nonparametric Relational Regression Models for Multiple Time Series, in the International Conference on Machine Learning (ICML), 2016.
- [41] Taehoon Kim, Dongeun Lee, Jaesik Choi**, Anna Spurlock, Alex Sim, Annika Todd and Kesheng Wu*. *Extracting Baseline Electricity Usage Using Gradient Tree Boosting*, in the International Conference on Big Data Intelligence and Computing (DataCom 2015), 2015 (Best Paper Award).
- [42] Taehoon Kim and Jaesik Choi**. Reading Documents for Bayesian Online Change Point Detection, in Conference on Empirical Methods on Natural Language Processing (EMNLP), 2015.
- [43] Wen Pu, Jaesik Choi, Yunseong Hwang and Eyal Amir**. A Deterministic Partition Function Approximation for Exponential Random Graph Models, in the International Joint Conference on Artificial Intelligence (IJCAI), 2015.
- [44] Man-Ki Yoon, Sibin Mohan, Jaesik Choi, and Lui Sha**. Memory Heat Map: Anomaly Detection in Real-Time Embedded Systems Using Memory Behavior, in the ACM/IEEE Design Automation Conference (DAC), 2015.
- [45] Dongeun Lee and Jaesik Choi**. Learning Dynamic Compressive Sensing Models for Big Data, in the SIAM International Conference on Data Mining (SDM), 2015.
- [46] **Jaesik Choi**^{*}, Eyal Amir^{**}, Tianfan Xu, and Albert Valocchi. *Learning Relational Kalman Filtering*, in the AAAI Conference on Artificial Intelligence (**AAAI**), 2015.
- [47] Dongeun Lee and **Jaesik Choi**^{**}. *Low Complexity Sensing for Big Spatio-Temporal Data*, in the IEEE International Conference on Big Data (IEEE BigData), 2014.

- [48] Man-Ki Yoon, Sibin Mohan, Jaesik Choi, Jung-Eun Kim and Lui Sha**, SecureCore: A Multicore based Intrusion Detection Architecture for Real-time Embedded Systems, in the IEEE Real Time Technology and Applications Symposium (RTAS), 2013.
- [49] **Jaesik Choi** and Eyal Amir^{**}, *Lifted Relational Variational Inferences*, in the Conference on Uncertainty in Artificial Intelligence (UAI), 2012.
- [50] Tiangfan Xu, Albert J. Valocchi^{**}, Jaesik Choi and Eyal Amir Improving Groundwater Flow Model Prediction Using Complementary Data-Driven Models, in the International Conference on Computational Methods in Water Resources (CMWR), 2012.
- [51] Jaesik Choi, Rodrigo de Salvo Braz^{**}, and Hung Bui, *Efficient Methods for Lifted Inference with Aggregate Factors*, in the AAAI Conference on Artificial Intelligence (AAAI), 2011.
- [52] Jaesik Choi, Abner Guzman-Rivera, and Eyal Amir^{**}, *Lifted Relational Kalman Filtering*, in the International Joint Conference on Artificial Intelligence (IJCAI), 2011.
- [53] Jaesik Choi, David J. Hill, and Eyal Amir^{**}, *Lifted Inference for Relational Continuous Models*, in the Conference on Uncertainty in Artificial Intelligence (UAI), 2010.
- [54] Hannaneh Hajishirzi, Afsaneh Shirzi, **Jaesik Choi**, and Eyal Amir^{**}, *Greedy Algorithms for Sequential Sensing Decisions*, in the International Joint Conference on Artificial Intelligence (**IJCAI**), 2009.
- [55] Jaesik Choi and Eyal Amir^{**}, *Combining Planning and Motion Planning*, in IEEE International Conference on Robotics and Automation (ICRA), 2009.
- [56] Jaesik Choi, Won J. Jeon*, and Sang-Chul Lee*, *Spatio-Temporal Pyramid Matching for Sports Videos*, in the ACM International Conference on Multimedia Information Retrieval (MIR), 2008.
- [57] Jaesik Choi and Eyal Amir^{**}, *Factor-Guided Motion Planning for a Robot Arm*, in the IEEE International Conference on Intelligent Robots and Systems (IROS), 2007.
- [58] **Jaesik Choi**, Woojin Chung*, and Jae-Bok Song*, *Efficient navigation of mobile robot based on the robot's experience in human co-existing environment*, in the International Conference on Control, Automation and Systems (**ICCAS**), 2005.

Journal

- [59] Luca Longo, Mario Brcic, Federico Cabitza, Jaesik Choi, Roberto Confalonieri, Javier Del Ser, Riccardo Guidotti, Yoichi Hayashi, Francisco Herrera, Andreas Holzinger, Richard Jiang, Hassan Khosravi, Freddy Lecue, Gianclaudio Malgieri, Andrs Pez, Wojciech Samek, Johannes Schneider, Timo Speith and Simone Stumpf, *Explainable Artificial Intelligence (XAI) 2.0: A manifesto of open challenges and interdisciplinary research directions*, in Information Fusion, 2024. [SCI, IF 17.564]
- [60] Juhwan Kim, Geun Ho Gu, Juhwan Noh, Seongun Kim, Suji Gim, Jaesik Choi* and Yousung Jung*, Predicting Potentially Hazardous Chemical Reactions Using Explainable Neural Network, in Chemical Science (Chem), 2021. [SCI, IF 9.825]
- [61] Qin Xie, Peng Zhang, Boseon Yu* and Jaesik Choi*, Semi-Supervised Training of Deep Generative Models for High-Dimensional Anomaly Detection, in IEEE Transactions on Neural Networks and Learning Systems (TNNLS), 2021. [SCI, IF 10.451]
- [62] Hyunbin Kim, Hae Nim Lee, Jaesik Choi*, Jihye Seong**, Spatiotemporal characterization of GPCR activity and function during endosomal trafficking pathway, in ACS Analytical Chemistry, 4(37), 2021. [SCI, IF 6.78]
- [63] Heejung Kim, Hyunbin Kim, Jaesik Choi, Kyung-Soo Inn* and Jihye Seong**, Visualization of autophagy progression by Red-Green-Blue autophagy sensor, in ACS Sensors, 2020. [SCI, IF 7.33]
- [64] David Gunning, Mark Stefik, Jaesik Choi, Timothy Miller, Simone Stumpf, Guang-Zhong Yang, XAI

- Explainable Artificial Intelligence, in Science Robotics, 4(37), 2019. [SCI, IF 19.4]

- [65] Thanh Tang Nguyen and **Jaesik Choi**^{**}, *Markov Information Bottleneck to Improve Information Flow in Stochastic Neural Networks* in Entropy, 21(10), 976, 2019. [SCI, IF 2.305]
- [66] Taehoon Kim, Dongeun Lee, Jaesik Choi[‡], C. Anna Spurlock, Alex Sim, Annika Todd and Kesheng Wu, *Predicting baseline for analysis of electricity pricing* in International Journal of Big Data Intelligence, 5, 2018.
- [67] Ramesh Patel, Kallol Roy, Jaesik Choi and Ki Jin Han**, Generative Design of Electromagnetic Structures Through Bayesian Learning in IEEE Transactions on Magnetics, 54(3), 2017. [SCI, IF 1.467]
- [68] Dongeun Lee, Jaesik Choi**, and Heonshik Shin, A Scalable and Flexible Repository for Big Sensor Data in IEEE Sensors Journal (Sensors), 15(12), 2015, 7284-7294. [SCI, IF 2.617]
- [69] Kyungjoong Jeong, Jaesik Choi^{**}, and Gil-Jin Jang^{*}, *Semi-Local Structure Patterns for Robust Face Detection*, in IEEE Signal Processing Letters (SPL), 2015. [SCI, IF 2.813]
- [70] Dongeun Lee, Jaesik Choi*, and Heonshik Shin, *Low-complexity compressive sensing with down-sampling*, in IEICE Electronic Express, 11(3), 2014, 20130947.
- [71] Tianfang Xu, Albert J. Valocchi^{**}, Jaesik Choi, and Eyal Amir, Application of Machine Learning Methods to Reduce Predictive Bias of Groundwater Models, in Groundwater, 52(3), 2014, 448-460. [SCI, IF 1.9]
- [72] Jaesik Choi, Ziyu Wang, Sang-Chul Lee*, and Won J. Jeon*, A Spatio-Temporal Pyramid Matching for Video Retrieval, in Computer Vision and Image Understanding (CVIU), 117(6), 2013, 660-669. [SCI, IF 2.391]
- [73] Woojin Chung*, Seokgyu Kim, Minki Choi, Jaesik Choi, Hoyeon Kim, Chang-bae Moon, and Jae-Bok Song*, Safe Navigation of a Mobile Robot Considering Visibility of Environment, IEEE Transactions on Industrial Electronics (TIE), Vol 56(10), pp. 3941–3950, 2009. [SCI, IF 7.050]

Book Chapters

- [74] **Jaesik Choi**, Kristian Kersting and Yuqiao Chen, *Lifted Inference for Hybrid Relational Models*, in An Introduction to Lifted Probabilistic Inference, MIT Press, August 2021.
- [75] Wannes Meert, **Jaesik Choi**, Jacek Kisynski, Hung Bui, Guy Van den Broeck, Adnan Darwiche, Rodrigo de Salvo Braz and David Poole, *Lifted Aggregation and Skolemization for Directed Models*, in An Introduction to Lifted Probabilistic Inference, MIT Press, August 2021.

International Patents

- [76] Giyoung Jeon, Haedong Jeong, and Jaesik Choi, *Methods and Apparatus for Extracting Data in Deep Neural Networks*, U.S. Patent Application 16/642,579, 2020.
- [77] Jaesik Choi, and Alex Sim, *Data reduction methods, systems and devices*, U.S. Patent US10,366,078B2, 2019.
- [78] Jaesik Choi, Ke Wei, and Vishwanth Tumkur Ramarao, *Filter For Blocking Image-Based Spam*, U.S. Patent 8055078, 2011.
- [79] Jaesik Choi, Jay Pujara, Vishwanth Tumkur Ramarao, and Ke Wei, *Identifying IP Addresses For Spammers*, U.S. Patent 7849146, 2010.

Workshop Proceedings and Technical Reports

- [80] Subin Yi and Jaesik Choi**, Learning Group Structure of Deep Neural Networks with an Expectation Maximization Method, in the Deep Learning and Clustering Workshop, collocated with International Conference on Data Mining (ICDM), 2019.
- [81] Subin Yi, Janghoon Ju, Man-Ki Yoon, and Jaesik Choi**, *Grouped Convolutional Neural Networks* for Multivariate Time Series, in arXiv 1703.09938, 2018.
- [82] Anh Tong and Jaesik Choi**, *Discovering Explainable Latent Covariance Structure for Multiple Time Series*, in Statistical Relational AI Workshop, collocated with International Joint Conference on Artificial Intelligence (IJCAI), 2018.
- [83] Wonjun Yoon, Sol-A Kim, Jaesik Choi**, An End-to-End Robot Architecture to Manipulate Non-Physical State Changes of Objects, in the International Workshop on Cognitive Robotics (CogRob), 2016.
- [84] Anh Tong, **Jaesik Choi****, *Automatic Generation of Probabilistic Programming from Time Series Data*, in the International Workshop on Statistical Relational AI (StarAI), 2016.
- [85] William Gu, Jaesik Choi, Ming Gu, Horst Simon and Kesheng Wu, Fast Change Point Detection for Electricity Market Analysis, in IEEE Big Data Workshop on Scalable Machine Learning: Theory and Applications, 2013.
- [86] Wen Pu, **Jaesik Choi** and Eyal Amir, *Lifted Inference On Transitive Relation*, in International Workshop on Statistical Relational AI (StaRAI), 2013.
- [87] Jaesik Choi and Eyal Amir, *Nonparametric Relational Hybrid Models*, in AAAI Workshop on Statistical Relational AI (StaRAI), 2012.
- [88] **Jaesik Choi** and Eyal Amir, *Combining Planning and Motion Planning: An Extended Abstract*, in ICAPS Workshop on Combining Action and Motion Planning (CAMP), 2010. (**Invited paper**)
- [89] **Jaesik Choi** and Eyal Amir, *Combining Planning and Motion Planning with an Action Formalism*, in Symposium on the Logical Formalizations of Commonsense Reasoning (Commonsense 2009), 2009.
- [90] **Jaesik Choi** and Eyal Amir, *Factored Planning for Controlling a Robotic Arm: Theory*, in International Cognitive Robotics Workshop (CogRob), 2006.
- [91] Yong Liu, David Hill, Tarek Abdelzaher, Jin Heo, Jaesik Choi, Barbara Minsker, and David Fazio, Virtual Sensor-Powered Spatiotemporal Aggregation and Transformation: A Case Study Analyzing Near-Real-Time NEXRAD and Precipitation Gage Data in a Digital Watershed, in Environmental Information Management, 2008.
- [92] Woojin Chung, Seokgyu Kim, and **Jaesik Choi**, *High speed navigation of a mobile robot based on experiences*, in JSME Annual Conference on Robotics and Mechatronics, 2006.

Student Advised

Postdocs

- **Boseon Yoo**, Postdoc Researcher, UNIST/KAIST, December 2017 August 2021. Currently at: **Director of Engineering, INEEJI**
- Kallol Roy, Postdoc Researcher, UNIST, August 2015 December 2017. Currently at: University of Tartu, Estonia
- **Dongeun Lee**, Postdoc Researcher, UNIST, March 2014 March 2016. Currently at: **Assistant Professor at Texas A&M University - Commerce**

PhDs

- Giyoung Jeon, PhD in Computer Engineering, UNIST, 2023 February. Thesis title: *Measuring the Contribution of the Input to the Prediction of the Deep Neural Network by Exploring the Input Space*. First job: Research Scientist at LG AI Research
- Haedong Jeong, PhD in Computer Engineering, UNIST, 2022 August. Thesis title: *Example-based Methods to Explain the Internal Generative Mechanism of Deep Generative Neural Networks*. First job: Research Scientist at SAIT
- **Qin Xie**, PhD in Computer Engineering, UNIST, 2022 August. Thesis title: *Anomaly Detection With High-Dimensional Complex Data*. First job: **Research Scientist at Chinese Academy of Science**
- Anh Tong, PhD in Computer Engineering, UNIST, 2021 March. Thesis title: *Probabilistic Model Discovery Relational Learning and Scalable Inference*. First position: **Postdoc at KAIST** Currently at: Assistant Professor at Korea University from March 2024

Master student

- Hyeha Im, M.S. in Artificial Intelligence, KAIST, 2024 February. Thesis title: *Case Study for the Development of an Acute Kidney Injury Prediction Model for Clinical Use*.
- **Bumjin Park**, M.S. in Artificial Intelligence, KAIST, 2023 August. Thesis title: *Partitioned Channel Gradient for Reliable Saliency Map in Image Classification*. First position: **PhD student at KAIST**
- Inyoung Paik, M.S. in Artificial Intelligence, KAIST, 2023 August. Thesis title: *The Disharmony between BN and ReLU Causes Gradient Explosion, but is Offset by the Correlation between Activations*. First position: DeepBio
- Jihyeon Seong, M.S. in Artificial Intelligence, KAIST, 2023 August. Thesis title: *Towards Diverse Perspective Learning with Select over Multiple Temporal Poolings*. First position: PhD student at KAIST
- Sekwang Oh, M.S. in Artificial Intelligence, KAIST, 2023 August. Thesis title: Dynamic Time Series Trend Filtering through Structural Breaks Detection with Reinforcement Learning. First position: Researcher, POSCO
- Dahee Kwon, M.S. in Artificial Intelligence, KAIST, 2022 August. Thesis title: *Finding relaxed decision region on an internal layer of deep neural networks*. First position: PhD student at KAIST
- Seongjin Park, M.S. in Artificial Intelligence, KAIST, 2022 August. Thesis title: *Empirical study of the relationship between decision region and robustness in deep neural networks*.
 First position: Personal SAIT

First position: Researcher, SAIT

• **Hwanil Choi**, M.S. in Artificial Intelligence, KAIST, 2022 August. Thesis title: *Can we find neurons that cause unrealistic images in deep generative networks?* First position: **Researcher, LG AI Research**

- Seongun Kim, M.S. in Artificial Intelligence, KAIST, 2022 February. Thesis title: *Explaining the decisions of deep policy networks for robotic manipulations* First position: PhD student at KAIST
- **Deokjun Eom**, M.S. in Artificial Intelligence, KAIST, 2022 February. Thesis title: *Variational neural temporal point process*. First position: **Researcher, Samsung Research**
- Wonjoon Chang, M.S. in Artificial Intelligence, KAIST, 2021 August. Thesis title: *Prototype selection for interpreting decision-making of deep temporal neural networks*. First position: PhD student at KAIST
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- Cheong-Woong Kang, M.S. in Computer Engineering, UNIST, 2021 March. Thesis title: Why Do Masked Neural Language Models Still Need Semantic Knowledge in Question Answering?
 First position: PhD student at KAIST

First position: PhD student at KAIST

- Nguyen Thanh Nguyen, M.S. in Computer Engineering, UNIST, 2021 March. Thesis title: *Improving Abstractive Summarization by Understanding Hidden Representations and Guidance on Semantic Meaning*.
- Youngjin Park, M.S. in Computer Engineering, UNIST, 2021 March. Thesis title: *Improved Prediction of Deep Temporal Neural Networks with Trend Filtering*. First position: PhD student at KAIST
- Alisher Abdulov, M.S. in Computer Engineering, UNIST, 2020 August. Thesis title: *Deep Trajectory Prediction for Robotic Manipulation Under Unreliable Sensor Data*. First position: **Researcher, 42Dot**
- Ji-Woo Lee, M.S. in Computer Engineering, UNIST, 2020 August. Thesis title: Learning Basis Functions of Deep Spatio-Temporal Neural Networks with Covariance Loss.

First position: Researcher, Deepnoid

- **Dong-Ju Shin**, M.S. in Computer Engineering, UNIST, 2020 August. Thesis title: *A Convolutional Neural Network based Policy Inspired by the Cerebellum*. First position: **Researcher, Deepnoid**
- Ye Eun Chun, M.S. in Computer Engineering, UNIST, 2020 August. Thesis title: *Learning to Explain Causal Rationale of Stock Price Changes in Financial Reports*. First position: Researcher at Shinhan AI
- Se-Hyun Lee, M.S. in Computer Engineering, UNIST, 2019 August. Thesis title: *A General Compositional Operation in Random Process*. First position: PhD student at KAIST
- Sol A Kim, M.S. in Computer Engineering, UNIST, 2019 August.

Thesis title: *Deep Reinforcement Learning in Multi-End Games*. First position: **PhD student at KAIST**

- Jiyeon Han, M.S. in Computer Engineering, UNIST, 2019 August. Thesis title: *Determining Changes in the Covariance Structure of Gaussian Processes*. First position: PhD student at KAIST
- Ginkyeng Lee, M.S. in Computer Engineering, UNIST, 2020 February. Thesis title: *Monte-Carlo Dropout based Uncertainty Analysis in Input Attributions of Multivariate Temporal Neural Networks*. First position: Start-up
- Janghoon Ju, M.S. in Computer Engineering, UNIST, 2019 August. Thesis title: *Deep Neural Networks to Learn Basis Functions with a Temporal Covariance Loss*. Currently at: AI Engineer at Krafton
- Ali Tousi, M.S. in Computer Engineering, UNIST, 2019 February. Thesis title: *Deep Fully Residual Convolutional Neural Network for Semantic Image Segmentation*. First position: **Researcher at UNIST**
- Subin Yi, M.S. in Computer Engineering, UNIST, 2018 August. Thesis title: An Expectation Maximization Method to Learn the Group Structure of Deep Neural Network.
 First position: Software Engineer at SK T brain

First position: Software Engineer at SK T-brain

- Thanh Tong Nguyen, M.S. in Computer Engineering, UNIST, 2018 August. Thesis title: *Layer-wise Learning of Stochastic Neural Networks with Information Bottleneck*. First position: PhD student at Deakin University
- **Rafael de Lima**, M.S. in Computer Engineering, UNIST, 2017 February. Thesis title: *Automatic Decomposition of Self-Triggering Kernels of Hawkes Processes*.
- Yunseong Hwang, M.S. in Computer Engineering, UNIST, 2016 February. Thesis title: *The Automatic Statistician: a Relational Perspective*. First position: Software Engineer at NAVER

Undergraduate student

- Taehoon Kim, B.S. in Computer Engineering, UNIST, 2016. Guided internship at Lawrence Berkeley National Laboratory, Summer 2014. (Won the best paper award from IEEE DataCom 2015), First position: **OpenAI**.
- Madi Khamitbekov, B.S. in Computer Engineering, UNIST, 2017. Guided internship at Google, Mountain View, USA, Summer 2016. Guided internship at Moloco, Winter 2016.
- Sanghun Kang, B.S. in Computer Engineering, UNIST, 2016. Guided research, 'Deep Learning Based Fog Removal Algorithms', Korean Patent, UTP16013KR-00. Now at Hyundai Card Algorithm Team.

Grants

Grants from Government Agencies

• PI, *Development of Plug-and-Play Explainable Artificial Intelligence Method*, **13,000M KRW**, April 2022 - December 2026, award from IITP, Ministry of Science and ICT.

- co-PI, Development and Study of AI Technologies to Inexpensively Conform to Evolving Policy on Ethics, 435M KRW (my share), April 2022 December 2023, award from IITP, Ministry of Science and ICT.
- PI, *Explainable Artificial Intelligence based Weather Forecasting Causality Detection*, **712M KRW**, May 2022 December 2024, award from National Institute of Meteorological Sciences.
- PI, Development of security (security check) response technology by building X-ray big data, **50M KRW**, June 2023 February 2024, award from DEEPNOID.
- Co-PI, *Clustered Unattended CPS Specialized Lab*, **250M KRW** (my share), June 2023 February 2024, award from Agency for Defense Development.
- co-PI, Development of Artificial Intelligence Robot Autonomous Navigation Technology for Agile Movement in Crowded Space, 865M KRW (my share), April 2019 December 2022, award from KEIT, Ministry of Trade, Industry and Energy.
- PI, A Machine Learning and Statistical Inference Framework for Explainable Artificial Intelligence, **15,400M KRW**, July 2017 December 2021, award from IITP, Ministry of Science and ICT.
- co-PI, *Development of Artificial Intelligence Curling Robot*, **300M KRW** (my share), April 2017 December 2018, award from IITP.
- co-PI, *Research and Development of Digital Companion Framework*, **600M KRW** (my share), April 2017 December 2020, award from IITP.
- PI, *Deep Reinforcement Learning for Robust Robotic Manipulation*, **90M KRW**, March 2017 December 2019, award from Korea Atomic Energy Research Institute.
- PI, *Relational Automatic Statistician for Multivariate Time Series Analysis*, **145M KRW**, March 2017 - February 2020, award from Korean NRF (Early Career Award).
- co-PI, Development of robot intelligence technology for mobility with learning capability toward robust and seamless indoor and outdoor navigation, **280M KRW** (my share), May 2016 - April 2020, award from KEIT, Ministry of Trade, industry and Energy.
- PI, *Deep Learning based Relation Extraction for Factoid Question Answering*, **30M KRW**, April 2016 November 2016, award from ETRI.
- PI, *Deep Learning based Surgical Image Semantic Segmentation*, **65M KRW**, July 2015 November 2016, award from ETRI.
- co-PI, A Robust Plant Monitoring System based on Multi-Dimensional Sound Source Localization and Particles Dehaze, **190M KRW** (my share), January 2015 December 2016, award from National IT Industry Promotion Agency, together with Daedo Tech and Ulsan Economic Promotion Agency.
- PI, Development of Fault-Diagnosis Algorithms for Current and Next-Generation Nuclear Systems, **523M KRW**, December 2014 November 2017, award from Korean NRF.
- PI, *Efficient Feature Extraction Methods for Exascale Computing*, **40M KRW**, August 2013 February 2015, award from UNIST.
- PI, *Learning and Inference with Probabilistic Relational Models for Intelligent Software Assistant*, **153M KRW**, May 2014 April 2017, award from Korean NRF (Early Career Award).

Grants from Companies

- PI, *Research on advancing explainable AI algorithms in finance*, **90M KRW**, November 2023 June 2024, award from Kakao Bank.
- PI, *Developing a methodology to maintain descriptiveness while compressing AI models*, **85M KRW**, October 2023 October 2024, award from Hyundai Motors.

- PI, Developing algorithms to characterize and improve synthesized sounds in explainable AI-based models, **100M KRW**, September 2023 August 2024, award from Samsung Electronics.
- PI, Research to automatically find and isolate some of the characteristics of objects trained on a text-to-image model to enable diverse and creative generation., **120M KRW**, July 2023 June 2024, award from NAVER.
- PI, Discovering the Limitations of Text-to-Image Generative Models and Developing the Generations of Out-of-Distribution Samples, **120M KRW**, July 2023 June 2024, award from NAVER.
- PI, *Error Source Analysis of Natural Language/Speech Neural Networks*, **100M KRW**, August 2022 July 2023, award from Samsung Electronics.
- PI, *Explainable Artificial Intelligence for Energy Prediction Models*, **102M KRW**, May 2022 April 2023, award from Hyundai Motors.
- PI, *Learning Explainable Disentangled Features*, **200M KRW**, December 2021 June 2023, award from Samsung Electronics.
- PI, Developing of algorithms to generative creative contents and explaining the decision making process of Transformer-based AI models, **M KRW**, July 2021 June 2022, award from NAVER.
- PI, *Explainable Speech Recognition AI development*, **100M KRW**, June 2021 June 2022, award from Samsung Electronics.
- PI, *Explainable AI for ventilation controling the ventilation of Gwangyang 1 blast furnace*, **95M KRW**, April 2021 March 2022, award from POSCO.
- PI, Developing a model to calculate optimal operating conditions based on blast furnace metrics prediction, **128M KRW**, April 2021 March 2022, award from POSCO.
- PI, *Estimating and monitoring sources of semiconductor contamination and building an artificial intelligence analytics platform to advance predictive maintenance*, **200M KRW**, January 2021 December 2022, award from Samsung Electronics.
- PI, *Explainable Artificial Intelligence based visualization for XGBoost-based corporate loan delinquency prediction*, **79M KRW**, December 2019 - December 2021, award from KEB Hana Bank.
- PI, *Based on HiEMS data AI Service Feasibility Review*, **30M KRW**, December 2019 December 2021, award from HD Korea Shipbuilding & Offshore Engineering..
- PI, *Deep Reinforcement Learning for Optimizing and Automating Semiconductor Circuit Design*, **300M KRW**, December 2019 March 2022, award from Samsung Electronics.
- PI, *Deep Learning based Fault Diagnosis of Equipments in Coal Fired Boilers*, **750M KRW**, October 2017 September 2019, award from Korea East-West Power Co.
- PI, Artificial Intelligence based Smart Blast Factory, **450M KRW**, April 2018 March 2021, award from POSCO.
- PI, Research and Development of Automatic News Summarization System, **135M KRW**, May 2017 April 2018, award from NAVER.
- PI, Development of Artificial Intelligence Methods to Diagnose Abnormal Conditions in Blast Furnace Operations, **110M KRW**, May 2017 - February 2018, award from POSCO.
- co-PI, *Development of Learning based Diagnosis Algorithm from Rattle Sounds*, **95M KRW** (my share, 40M KRW), September 2016 September 2017, award from Samsung Electronics.
- PI, Artificial Intelligence Research of Time Series Data Analysis on Steel Making Procedure, **125M** KRW, June 2016 February 2017, award from POSCO.
- PI, Deep Recurrent Neural Network Models for User Pattern Recognition in Sound Signals, 30M

KRW, November 2015 - April 2016, award from Hyundai NGV.

• PI, Confidential, 20M KRW, January 2015 - March 2015, award from Doosan Heavy Industry.

Academic Services

- Program co-Chair for
 - 2023 IPAM Workshop on Explainable AI for the Sciences: Towards Novel Insights.
 - 2018 International Explainable Artificial Intelligence Symposium.
- Tutorial Chair for ACML Asian Conference on Machine Learning 2017.
- Area Chair for
 - IJCAI International Joint Conference on Artificial Intelligence (2021, 2023, 2024).
 - UAI Uncertainty in Artificial Intelligence (2024).
- Associate Editor for
 - Pattern Recognition Journal (2023-present).
- Senior Program Committee for
 - AAAI National Conference on Artificial Intelligence (2021).
 - IJCAI-ECAI International Joint Conference on Artificial Intelligence European Conference on Artificial Intelligence (2022).
- Program Committee for
 - AAAI National Conference on Artificial Intelligence (2012 present).
 - ICML International Conference on Machine Learning (2013 present).
 - IJCAI International Joint Conference on Artificial Intelligence (2011 present).
 - NeurIPS Conference on Neural Information Processing Systems (2015 present).
 - UAI Uncertainty in Artificial Intelligence (2015 present).
 - KR Conferences on Principles of Knowledge Representation and Reasoning (2016).
 - ACML Asian Conference on Machine Learning (2015 and 2016).
- **Reviewer** for Journals:
 - AIJ Artificial Intelligence Journal.
 - JAIR Journal of Artificial Intelligence Research.
 - Computational Intelligence.
 - Mechatronics.
- Professional organizations:
 - IEEE member: Institute of Electrical and Electronics Engineers.
 - ACM member: Association for Computing Machinery.
 - AAAI member: Association for the Advancement of Artificial Intelligence.
 - KIISE lifetime member: Korean Institute of Information Scientists and Engineers.

Industrial Services

- Samsung Future Technology Committee, January 2019 December 2021.
- POSCO Steel Professor, August 2017 July 2020.

- Technical Advisory Professor, Samsung Advanced Institute of Technology, October 2018 May 2019.
- Technical Advisory Professor, Materials and Components R&D Laboratory, LG Electronics, July 2017 February 2019.

Invited Talks and Presentations

- **IEEE BigComp 2024**, Tutorial, *Explainable Artificial Intelligence to Understand Internal Decision Mechanism of Deep Neural Networks*, February 2024.
- Chinese Academy of Engineering, The 1st China-Korea Development Forum on Engineering Sciences and Technology, *Explainable Artificial Intelligence Reserach in Korea*, July 2023.
- Institute for Pure and Applied Mathematics, Explainable AI for the Sciences: Toward Novel Insights, January 2023.
- **RIKEN AIP**, *Explainable Artificial Intelligence: Academic Research and Industrial Applications in Korea*, October 2022.
- NAEK-EAJ, Korea-Japan AI Forum, *Explainable Artificial Intelligence: Academic Research and Industrial Applications in Korea*, October 2022.
- **KMA-NOAA**, 1st KMA-NOAA AI Workshop on AI for Weather and Climate, *Explainable Artificial Intelligence for Precipitation Forecasting*, October 2022.
- **KAST-Leopoldina**, The 6th KAST-Leopoldina Bilateral Symposium, *Explainable Artificial Intelligence Reserach in Korea*, September 2022.
- KAIST Center for Neuroscience-inspired Artificial Intelligence, Next-generation AI: towards humanlevel intelligence, AI and brain, AI x Human Symposium - Interpreting and Explaining Internal Nodes in Deep Neural Networks, November 2020.
- ACM SIGKDD, Conference on Knowledge Discovery and Data Mining, *Interpreting and Explaining Deep Neural Networks: A Perspective on Time Series Data*, August 2020.
- **2020 IEEE**, International Conference Big Data and Smart Computing, *Explainable Artificial Intelligence (XAI) Tutorial*, February 2020.
- International Conference on Robot Intelligence Technology and Applications, *Explainable AI for Reinforcement Learning*, November 2019.
- **Times Higher Education**, Asia Universities Summits, *New technology advancing the field: AI and the health sector*, May 2019.
- **DARPA**, DARPA PI Meeting at University of California Berkeley, *Explainable Artificial Intelligence Research in Korea*, February 2019.
- **2018 International Explainable AI Symposium**, UNIST Explainable Artificial Intelligence Center, October 2018.
- 2018 ICCE-Asia 2018 IEEE/IEIE, Tutorial on Explainable Artificial Intelligence: Models and Applications, June 2018.
- Bloomberg, Machine Learning Decoded 2018 Conference in Korea, *Explainable Artificial Intelligence for Financial Time Series*, March 2018.
- 2017 International Conference on Artificial Intelligence, hosted by Ministry of Science and ICT, *Introduction to Explainable Artificial Intelligence Center*, December 2017.
- 2017 Korea-Canada Science & Technology Innovation Symposium, hosted by Science and Technology Policy Institute (STEPI), *Explainable Artificial Intelligence: Models and Applications*, December 2017.

- The Asian Conference on Machine Learning, *Tutorial: Statistical Relational Artificial Intelligence*, November 2017.
- The 5th The Korean Academy of Science and Technology (KAST) Leopoldina Bilateral Symposium on AI and Machine Learning Technology, Perspective and Applications, *Exploiting Relations among Multiple Time Series Toward Explainable Artificial Intelligence*, October 2017.
- 2017 IEEE International Conference on Big Data and Smart Computing (BigComp), *Tutorial: Machine Learning with Time Series Data*, February 2017.
- International Conference on Control, Automation and Systems, Tutorial, *Machine Learning with Sequential Data*, October 2016. (with Prof. Moon Jun at UNIST)
- Ho Chi Minh City University of Technology, Faculty of Computer Science, *Learning and Inference with Large-Scale Gaussian Processes*, September 2013.
- Ho Chi Minh City University of Science, Faculty of Math and Computer Science, *Learning and Inference with Large-Scale Gaussian Processes*, September 2013.
- University of California, Berkeley, Stuart Russell's Research Group, *Learning and Inference for Relational Hybrid Models*, February 2013.
- Honda Research Institute, Learning and Inference for Large-Scale Graphical Models, October 2012.
- Palo Alto Research Center (PARC), Learning and Inference for Large-Scale Graphical Models, October 2012.
- Lawrence Berkeley National Laboratory, *Learning and Inference for Large-Scale Graphical Models*, September 2012.
- University of Illinois at Urbana-Champaign on Artificial Intelligence and Information Systems (AIIS) Seminar, *Efficient Lifted Inference with Large-Scale Graphical Models*, March 2012.
- IJCAI-11 Tutorial on Lifted Inference in Probabilistic Logical Models, *Lifted Inference with Continuous Variables*, July 2011 (Presented by a coauthor).
- SRI International, Lifted Inference for Relational Continuous Models, June 2011.
- ICAPS 2010 Workshop on Combining Action and Motion Planning, *Combining Planning and Motion Planning*, May 2010 (Presented by a coauthor).