

# Minsu Cho

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POSITION	<b>Associate Professor</b> <b>Department of Computer Science and Engineering</b> <b>Pohang University of Science and Technology (POSTECH)</b>
CONTACT INFORMATION	POSTECH Science Building #2, Room 313 77 Cheongam-Ro, Nam-Gu Pohang, Gyeongbuk, 37673 Republic of Korea. Office: +82 054 279 2385 Fax: +82 054 279 2299 e-mail: <a href="mailto:mscho@postech.ac.kr">mscho@postech.ac.kr</a> homepage: <a href="http://cvlab.postech.ac.kr/~mcho">http://cvlab.postech.ac.kr/~mcho</a>
CITIZENSHIP	The Republic of Korea
BIRTHDAY	May 9th, 1978.
RESEARCH INTERESTS	Computer vision and machine learning, in particular, related to the problems of relational vision: semantic visual correspondence, symmetry & motion analysis, video action recognition, graph matching & learning, weakly- & self-supervised learning, and knowledge transfer & discovery.
EDUCATION	<b>Seoul National University</b> , Seoul, Korea <i>Ph.D (Unified master's and doctor's course)</i> <b>Mar 2005 – Feb 2012</b> <ul style="list-style-type: none"><li>• Thesis: Graph-based Image Matching via Random Walks</li><li>• Advisor: <a href="#">Prof. Kyoung Mu Lee</a></li></ul> <i>B.S., Department of Electrical Engineering</i> <b>Mar 1997 – Aug 2001</b> <ul style="list-style-type: none"><li>• Thesis: Voice Recognition System in Mobile Environments</li><li>• Advisor: Prof. Seung-Woo Seo and Prof. Nam Soo Kim</li></ul>
RESEARCH EXPERIENCE	<b>Dep. of Computer Science and Engineering, POSTECH</b> , Korea <i>Associate Professor</i> <b>Mar 2020 – now</b> <b>Dep. of Computer Science and Engineering, POSTECH</b> , Korea <i>Assistant Professor</i> <b>Aug 2016 – Feb 2020</b> <b>Inria - WILLOW team / École Normale Supérieure</b> , France <i>Inria Starting Researcher</i> <b>Jun 2015 – Aug 2016</b> <ul style="list-style-type: none"><li>• Research on object discovery, deep neural embedding, and weakly-supervised learning with <a href="#">Jean Ponce</a>, <a href="#">Cordelia Schmid</a>, and <a href="#">Ivan Laptev</a>.</li><li>• Collaboration with postdocs and students at Inria (Suha Kwak, Bumsub Ham, Anton Osokin, Vadim Kantorov)</li></ul> <i>Postdoctoral Research Fellow</i> <b>Jun 2012 – May 2015</b> <ul style="list-style-type: none"><li>• Research on graph learning and object discovery with <a href="#">Jean Ponce</a> and <a href="#">Cordelia Schmid</a>.</li><li>• Collaboration with postdocs, students, and interns at Inria (<a href="#">Karteek Alahari</a>, <a href="#">Olivier Duchenne</a>, <a href="#">Bumsub Ham</a>, <a href="#">Suha Kwak</a>, <a href="#">Anton Osokin</a>, <a href="#">Jian Sun</a>, and <a href="#">Rafael Sampaio</a>)</li></ul> <b>Automation and Systems Research Institute</b> , Seoul National University, Korea <i>Senior Researcher</i> <b>Mar 2012 – Apr 2012</b> <ul style="list-style-type: none"><li>• Research on efficient graph matching for image matching</li><li>• Collaboration with students at CVL (<a href="#">Youngmin Shin</a>, <a href="#">Jungmin Lee</a>, <a href="#">Yumin Suh</a>).</li></ul>

PROFESSIONAL  
ACTIVITIES

**Organizers of international conferences**

Program Chair of Machine Vision Applications (MVA) 2021, Nagoya, Japan  
Web chair of International Conference on Computer Vision (ICCV) 2019, Seoul, Korea  
Web chair of ACM Multimedia (ACM MM) 2018, Seoul, Korea

**Area chair of international conferences**

Computer Vision and Pattern Recognition (CVPR) 2018, 2020, 2021, 2022  
International Conference on Computer Vision (ICCV) 2019, 2021  
International Joint Conference on Artificial Intelligence (IJCAI) 2021  
Asian Conference on Computer Vision (ACCV) 2018  
IEEE Winter Conference on Applications of Computer Vision (WACV) 2018  
British Machine Vision Conference (BMVC) 2021  
International Conference on Pattern Recognition (ICPR) 2020, 2022

**Senior Program Committee member of international conferences**

AAAI Conference on Artificial Intelligence (AAAI) 2021, 2022  
International Joint Conference on Artificial Intelligence (IJCAI-PRICAI) 2020

**Editorial board member of international journals**

Associate Editor of the International Journal on Computer Vision (IJCV) 2019-  
Guest Editor of the Special Issue on “Advances in Visual Correspondence”, Pattern Recognition Letters (PRL) 2018.

**Reviewer of international conferences**

Computer Vision and Pattern Recognition (CVPR) 2010-2019  
European Conference on Computer Vision (ECCV) 2012-2020  
International Conference on Computer Vision (ICCV) 2011-2017  
International Conference on Machine Learning (ICML) 2019-2022  
International Conference on Learning Representations (ICLR) 2019, 2020, 2021  
Neural Information Processing Systems (NeurIPS) 2018-2021  
Asian Conference on Computer Vision (ACCV) 2014  
British Machine Vision Conference (BMVC) 2015

**Reviewer of international journals**

Transactions on Pattern Analysis and Machine Intelligence (TPAMI) 2011-2021  
International Journal of Computer Vision (IJCV) 2014-2021  
Computer Vision and Image Understanding (CVIU) 2014-2016  
Pattern Recognition Letters (PRL) 2018

**Organizers of domestic conferences**

Program committee of Image Processing and Image Understanding (IPIU) 2019  
Program committee of Korean Conference on Computer Vision (KCCV) 2017, 2019

INDUSTRY  
EXPERIENCE

**Netdus Co.,Ltd.**, Seoul, Korea  
*Software R&D Engineer*

**Jan 2001 – Dec 2004**

- Designing mobile voice recognition systems based on computer-telephony interfaces.

HONOURS AND  
AWARDS

Member of the Young Korean Academy of Science and Technology (Y-KAST) 2021  
- Area of Artificial Intelligence

The challenge winner at [CoVieW'19 workshop and challenge](#), IEEE CVF ICCV 2019  
- 2nd place at the Challenge on Comprehensive Video Understanding in the Wild

- Awarded to the best algorithm on video summarization

The challenge winner at [CoVieW'18 workshop and challenge](#), ACM Multimedia 2018

- 1st place at the Challenge on Comprehensive Video Understanding in the Wild

- Awarded to the best algorithm on multi-task action and scene recognition

[Collaborative Research Grant Awards](#), Microsoft Research Asia, 2018

- Awarded to faculty members in Asia for collaboration with MSRA researchers.

Competition winner in rotational symmetry, [Symmetry Detection Workshop](#), CVPR 2011

- Granted on 24th June 2011 by Symmetry Detection Workshop in IEEE CVPR conference

- Awarded to the best algorithm on symmetry detection from real world images

Best research award, [SNU BrainKorea21](#), 2011

- Granted on 12th Sept 2011 by Seoul National University

- Awarded to the year's excellent Ph.D. students in research

Best presentation prize, [International Computer Vision Summer School \(ICVSS\)](#), 2010

- Granted on 16th June 2010 by International Computer Vision Summer School

- Awarded to the year's best research presented in the international summer school in Italy

6 Awards in [Samsung Humantech Thesis Prize](#), Samsung Electronics, 2008 - 2012

- Awarded to the year's most prominent researches in 5 fields

- Gold Prize and Bronze Prize in Signal Processing, 2012
- Silver Prize in Computer Science & Computer Engineering, 2011
- Silver Prize in Computer Science & Computer Engineering, 2010
- Bronze Prize in Signal Processing, 2009
- Gold Prize in Signal Processing, 2008

INTERNATIONAL  
PUBLICATIONS

\* All my papers are available from my website <http://cvlab.postech.ac.kr/~mcho> and Google Scholar profile.<sup>1</sup>

Jongmin Lee, Byungjin Kim, **Minsu Cho**, "Self-Supervised Equivariant Learning for Oriented Keypoint Detection," in *Proceedings of the IEEE/CVF Conf. on Computer Vision and Pattern Recognition (CVPR)*, 2022.

Doyup Lee, Chiheon Kim, Saehoon Kim, **Minsu Cho**, Wook-Shin Han, "Autoregressive Image Generation using Residual Quantization," in *Proceedings of the IEEE/CVF Conf. on Computer Vision and Pattern Recognition (CVPR)*, 2022.

Seungwook Kim, Juhong Min, **Minsu Cho**, "TransforMatcher: Match-to-Match Attention for Semantic Correspondence," in *Proceedings of the IEEE/CVF Conf. on Computer Vision and Pattern Recognition (CVPR)*, 2022.

Ahyun Seo, Byungjin Kim, Suha Kwak, **Minsu Cho**, "Reflection and Rotation Symmetry Detection via Equivariant Learning," in *Proceedings of the IEEE/CVF Conf. on Computer Vision and Pattern Recognition (CVPR)*, 2022.

Dayoung Gong, Joonseok Lee, Manjin Kim, Seongjong Ha, **Minsu Cho**, "Future Transformer for Long-term Action Anticipation," in *Proceedings of the IEEE/CVF Conf. on Computer Vision and Pattern Recognition (CVPR)*, 2022.

Sungyeon Kim, Dongwon Kim, **Minsu Cho**, Suha Kwak, "Self-Taught Metric Learning without Labels," in *Proceedings of the IEEE/CVF Conf. on Computer Vision and Pattern*

<sup>1</sup>See my profile at: <http://scholar.google.com/citations?user=5Tyof5QAAAAJ>.

*Recognition (CVPR)*, 2022.

Chunghyun Park, Yoonwoo Jeong, **Minsu Cho**, Jaesik Park, “Fast Point Transformer,” in *Proceedings of the IEEE/CVF Conf. on Computer Vision and Pattern Recognition (CVPR)*, 2022.

Dahyun Kang, **Minsu Cho**, “Integrative Few-Shot Learning for Classification and Segmentation,” in *Proceedings of the IEEE/CVF Conf. on Computer Vision and Pattern Recognition (CVPR)*, 2022.

Dongkeun Kim, Jinsung Lee, **Minsu Cho**, Suha Kwak, “Detector-Free Weakly Supervised Group Activity Recognition,” in *Proceedings of the IEEE/CVF Conf. on Computer Vision and Pattern Recognition (CVPR)*, 2022.

Jeongbeen Yoon, Dahyun Kang, **Minsu Cho** “Semi-Supervised Domain Adaptation via Sample-to-Sample Self-Distillation,” in *Proceedings of the IEEE Winter Conference on Applications of Computer Vision (WACV)*, 2022

2021 Manjin Kim\*, Heeseung Kwon\*, Chunyu Wang, Suha Kwak, **Minsu Cho** (\*equal contribution), “Relational Self-Attention: What’s Missing in Attention for Video Understanding,” in *Proceedings of the Annual Conference on Neural Information Processing Systems (NeurIPS)*, 2021

Hyunsoo Chung\*, Jungtaek Kim\*, Boris Knyazev, Jinhwi Lee, Graham W. Taylor, Jaesik Park, **Minsu Cho** (\*equal contribution), “Brick-by-Brick: Combinatorial Construction with Deep Reinforcement Learning,” in *Proceedings of the Annual Conference on Neural Information Processing Systems (NeurIPS)*, 2021

Minguk Kang, Woohyeon Joseph Shim, **Minsu Cho**, Jaesik Park, “Rebooting ACGAN: Auxiliary Classifier GANs with Stable Training,” in *Proceedings of the Annual Conference on Neural Information Processing Systems (NeurIPS)*, 2021

Heeseung Kwon\*, Manjin Kim\*, Suha Kwak, **Minsu Cho**, “Learning Self-Similarity in Space and Time as Generalized Motion for Video Action Recognition,” in *Proceedings of the IEEE/CVF International Conference on Computer Vision (ICCV)*, 2021.

Juhong Min, Dahyun Kang, **Minsu Cho**, “Hypercorrelation Squeeze for Few-Shot Segmentation,” in *Proceedings of the IEEE/CVF International Conference on Computer Vision (ICCV)*, 2021.

Dahyun Kang, Heeseung Kwon, Juhong Min, **Minsu Cho**, “Relational Embedding for Few-Shot Classification,” in *Proceedings of the IEEE/CVF International Conference on Computer Vision (ICCV)*, 2021.

Ahyun Seo\*, Woohyeon Shim\*, **Minsu Cho**, “Learning to Discover Reflection Symmetry via Polar Matching Convolution,” in *Proceedings of the IEEE/CVF International Conference on Computer Vision (ICCV)*, 2021.

Junha Lee, Seungwook Kim, **Minsu Cho**, Jaesik Park, “Deep Hough Voting for Robust Global Registration,” in *Proceedings of the IEEE/CVF International Conference on Computer Vision (ICCV)*, 2021.

Yoonwoo Jeong, Seokjun Ahn, Christopher Choy, Animashree Anandkumar, **Minsu Cho**, Jaesik Park, “Self-Calibrating Neural Radiance Fields,” in *Proceedings of the IEEE/CVF*

*International Conference on Computer Vision (ICCV)*, 2021.

Juhong Min, **Minsu Cho**, “Convolutional Hough Matching Networks,” in *Proceedings of the IEEE/CVF Conf. on Computer Vision and Pattern Recognition (CVPR)*, 2021. Oral presentation.

Sungyeon Kim, Dongwon Kim, **Minsu Cho**, Suha Kwak, “Embedding Transfer with Label Relaxation for Improved Metric Learning,” in *Proceedings of the IEEE/CVF Conf. on Computer Vision and Pattern Recognition (CVPR)*, 2021.

Gyeongsik Moon\*, Heeseung Kwon\*, Kyoung Mu Lee, **Minsu Cho**, “IntegralAction: Pose-driven Feature Integration for Robust Human Action Recognition in Videos,” in *CVPR Workshop on Large Scale Holistic Video Understanding (CVPRW)*, 2021.

Woohyeon Shim, **Minsu Cho**, “CircleGAN: Generative Adversarial Learning across Spherical Circles,” in *Proceedings of the Annual Conference on Neural Information Processing Systems (NeurIPS)*, 2020

Juhong Min, Jongmin Lee, Jean Ponce, **Minsu Cho**, “Learning to Compose Hypercolumns for Visual Correspondence,” in *Proceedings of the European Conference on Computer Vision (ECCV)*, 2020.

Heeseung Kwon, Manjin Kim, Suha Kwak, **Minsu Cho**, “MotionSqueeze: Neural Motion Feature Learning for Video Understanding,” in *Proceedings of the European Conference on Computer Vision (ECCV)*, 2020.

Sungyeon Kim, Dongwon Kim, **Minsu Cho**, Suha Kwak, “Proxy Anchor Loss for Deep Metric Learning,” in *Proceedings of the IEEE/CVF Conf. on Computer Vision and Pattern Recognition (CVPR)*, 2020.

Jonghwan Mun, **Minsu Cho**, Bohyung Han “Local-Global Video-Text Interactions for Temporal Grounding,” in *Proceedings of the IEEE/CVF Conf. on Computer Vision and Pattern Recognition (CVPR)*, 2020.

Sangwoo Mo, **Minsu Cho**, Jinwoo Shin, “Freeze the Discriminator: a Simple Baseline for Fine-Tuning GANs,” in *AI for Content Creation Workshop at the IEEE/CVF Conf. on Computer Vision and Pattern Recognition (CVPRW)*, 2020.

Ilchae Jung, Kihyun You, Hyeonwoo Noh, **Minsu Cho**, Bohyung Han Real-Time Object Tracking via Meta-Learning: Efficient Model Adaptation and One-Shot Channel Pruning in *Proceedings of the AAAI Conference on Artificial Intelligence (AAAI)*, 2020.

Sangwoo Mo, Chiheon Kim, Sungwoong Kim, **Minsu Cho**, Jinwoo Shin “Mining GOLD Samples for Conditional GANs,” in *Proceedings of the Annual Conference on Neural Information Processing Systems (NeurIPS)*, 2019.

Wonpyo Park\*, Paul Hongsuck Seo\*, Bohyung Han, **Minsu Cho**, (\*equal contribution) “Regularizing Neural Networks via Stochastic Branch Layers,” in *Proceedings of the Asian Conference on Machine Learning (ACML)*, 2019. Oral presentation.

Juhong Min, Jongmin Lee, Jean Ponce, **Minsu Cho**, “SPair-71k: A Large-scale Benchmark for Semantic Correspondence,” Arxiv, 2019 (Extended from the dataset section of our ICCV 2019 paper below).

Juhong Min, Jongmin Lee, Jean Ponce, **Minsu Cho**, “Hyperpixel Flow: Semantic Correspondence with Multi-layer Neural Features,” in *Proceedings of the IEEE/CVF International Conference on Computer Vision (ICCV)*, 2019.

Wonpyo Park, Dongju Kim, Yan Lu, **Minsu Cho**, “Relational Knowledge Distillation,” in *Proceedings of the IEEE/CVF Conf. on Computer Vision and Pattern Recognition (CVPR)*, 2019.

Huy V. Vo, Jean Ponce, Patrick Pérez, Francis Bach, Yann LeCun, **Minsu Cho**, Kai Han, “Unsupervised Image Matching and Object Discovery as Optimization” in *Proceedings of the IEEE/CVF Conf. on Computer Vision and Pattern Recognition (CVPR)*, 2019.

Sungyeon Kim, Minkyoo Seo, Ivan Laptev, **Minsu Cho**, Suha Kwak, “Deep Metric Learning Beyond Binary Supervision,” in *Proceedings of the IEEE/CVF Conf. on Computer Vision and Pattern Recognition (CVPR)*, 2019. Oral presentation.

Sangwoo Mo, **Minsu Cho**, Jinwoo Shin “InstaGAN: Instance-aware Image-to-Image Translation,” in *International Conference on Learning Representations (ICLR)*, 2019.

Seungkwan Lee, Suha Kwak, and **Minsu Cho**, “Universal Bounding Box Regressor and its Applications ,” in *Proceedings of the Asian Conference on Computer Vision (ACCV)*, 2018.

Jeany Son, Daniel Kim, Solae Lee, Suha Kwak, **Minsu Cho**, and Bohyung Han, “Forget & Diversify: Regularized Refinement for Weakly Supervised Object Detection ,” in *Proceedings of the Asian Conference on Computer Vision (ACCV)*, 2018. Oral presentation.

Heeseung Kwon, Suha Kwak, and **Minsu Cho**, ”Video Understanding via Convolutional Temporal Pooling Network and Multimodal Feature Fusion”, CoVieW’18 Proceedings of the 1st Workshop and Challenge on Comprehensive Video Understanding in the Wild, ACM Multimedia conference (**ACMMM**), 2018 (Challenge winner as 1st place).

Paul Hongsuck Seo, Jongmin Lee, Deunsol Jung, Bohyung Han, and **Minsu Cho**, “Attentive Semantic Alignment with Offset-Aware Correlation Kernels ,” in *Proceedings of the European Conference on Computer Vision (ECCV)*, 2018.

Heeseung Kwon, Yeonho Kim, Jin S. Lee, and **Minsu Cho**, “First Person Action Recognition via Two-stream ConvNet with Long-term Fusion Pooling’ in *Pattern Recognition Letters (PRL)*, Vol. 68, no. 1, pp. 76-82, 2018.

Kai Han, Rafael S. Rezende, Bumsub Ham, Kwan-Yee K. Wong, **Minsu Cho**, Cordelia Schmid, Jean Ponce, “SCNet: Learning Semantic Correspondence,” in *Proceedings of the IEEE International Conference on Computer Vision (ICCV)*, 2017.

Bumsub Ham, **Minsu Cho**, Cordelia Schmid, Jean Ponce, “Proposal Flow: Semantic Correspondences from Object Proposals” in *IEEE Transactions on Pattern Analysis and Machine Intelligence (TPAMI)*, Mar, 2016, (IF: 9.455).

Jeany Son, Mooyeol Baek, **Minsu Cho**, Bohyung Han, “Multi-Object Tracking with Quadruplet Convolutional Neural Network,” in *Proceedings of the IEEE Conf. on Computer Vision and Pattern Recognition (CVPR)*, 2017.

Bumsub Ham, **Minsu Cho**, Jean Ponce, “Robust Guided Image Filtering Using Nonconvex Potentials” in *IEEE Transactions on Pattern Analysis and Machine Intelligence (TPAMI)*,

Feb, 2016, (IF: 9.455).

Jonghwan Mun, **Minsu Cho**, and Bohyung Han, “Text-Guided Attention Model for Image Captioning,” *Proceedings of the AAAI Conference on Artificial Intelligence (AAAI)*, 2017. Oral presentation.

Vadim Kantorov, Maxime Oquab, **Minsu Cho**, and Ivan Laptev, “ContextLocNet: Context-aware Deep Network Models for Weakly Supervised Localization,” *Proceedings of the European Conference on Computer Vision (ECCV)*, 2016.

Suha Kwak, **Minsu Cho**, and Ivan Laptev, “Thin-Slicing for Pose: Learning to Understand Pose without Explicit Pose Estimation,” in *Proceedings of the IEEE Conf. on Computer Vision and Pattern Recognition (CVPR)*, 2016.

Bumsub Ham, **Minsu Cho**, Cordelia Schmid, and Jean Ponce, “Proposal Flow,” in *Proceedings of the IEEE Conf. on Computer Vision and Pattern Recognition (CVPR)*, 2016.

**Minsu Cho**, Suha Kwak, Ivan Laptev, Cordelia Schmid, and Jean Ponce, “Unsupervised object discovery and localization in images and videos,” in The 12th International Conference on Ubiquitous Robots and Ambient Intelligence (**URAI**), 2015, Goyang, Korea.

Suha Kwak, **Minsu Cho**, Ivan Laptev, Jean Ponce, and Cordelia Schmid, “Unsupervised Object Discovery and Tracking in Video Collections” in *Proceedings of the IEEE International Conference on Computer Vision (ICCV)*, 2015.

Junchi Yan, **Minsu Cho**, Hongyuan Zha, Xiaokang Yang, and Stephen Chu, “Multi-Graph Matching via Affinity Optimization with Graduated Consistency Regularization” in *IEEE Transactions on Pattern Analysis and Machine Intelligence (TPAMI)*, Sept, 2015, (IF: 9.455).

Man Hee Lee, **Minsu Cho**, and In Kyu Park, “Feature Description using Local Neighborhoods” in *Pattern Recognition Letters (PRL)*, Vol. 68, no. 1, pp. 76-82, 2015.

**Minsu Cho**, Suha Kwak, Cordelia Schmid, and Jean Ponce, “Unsupervised Object Discovery and Localization in the Wild: Part-based Matching with Bottom-up Region Proposals,” in *Proceedings of the IEEE Conf. on Computer Vision and Pattern Recognition (CVPR)*, 2015. Oral presentation, 3.3% acceptance rate.

Bumsub Ham, **Minsu Cho**, and Jean Ponce, “Image Regularization using Joint Static and Dynamic Guidance,” in *Proceedings of the IEEE Conf. on Computer Vision and Pattern Recognition (CVPR)*, 2015.

**Minsu Cho**, Jian Sun, Olivier Duchenne, and Jean Ponce, “Finding Matches in a Haystack: A Max-Pooling Strategy for Graph Matching in the Presence of Outliers,” in *Proceedings of the IEEE Conf. on Computer Vision and Pattern Recognition (CVPR)*, 2014.

**Minsu Cho**, Karteek Alahari, and Jean Ponce, “Learning Graphs to Match,” in *Proceedings of the IEEE International Conference on Computer Vision (ICCV)*, 2013. Oral presentation, 2.5% acceptance rate.

**Minsu Cho**, Young Min Shin, and Kyoung Mu Lee, “Co-recognition of Images and Videos: Unsupervised Matching of Identical Object Patterns and Its Applications,” Book Chapter in *Advanced Topics in Computer Vision*, Springer, June 2013.

Young Min Shin, **Minsu Cho**, Kyoung Mu Lee, “Multi-Object Reconstruction from Dynamic Scenes: An Object-Centered Approach,” in *Computer Vision and Image Understanding (CVIU)*, July 2013.

Yumin Suh, **Minsu Cho**, and Kyoung Mu Lee, “Graph Matching via Sequential Monte Carlo,” in *Proceedings of the European Conference on Computer Vision (ECCV)*, 2012. 25% acceptance rate.

**Minsu Cho** and Kyoung Mu Lee, “Progressive Graph Matching: Making a Move of Graphs via Probabilistic Voting,” in *Proceedings of the IEEE Conf. on Computer Vision and Pattern Recognition (CVPR)*, 2012. Oral presentation, 2.5% acceptance rate.

**Minsu Cho** and Kyoung Mu Lee, “Mode-Seeking on Graphs via Random Walks,” in *Proceedings of the IEEE Conf. on Computer Vision and Pattern Recognition (CVPR)*, 2012. 24% acceptance rate.

**Minsu Cho**, Young Min Shin, and Kyoung Mu Lee, “Object Correspondence Networks for Unsupervised Recognition of Identical Objects,” Book Chapter in *Emerging Topics in Computer Vision and its Applications*, World Scientific Publishing, September 2011

Jungmin Lee, **Minsu Cho**, and Kyoung Mu Lee, “Hyper-graph Matching via Reweighted Random Walks,” in *Proceedings of the IEEE Conf. on Computer Vision and Pattern Recognition (CVPR)*, 2011. 26.4% acceptance rate.

**Minsu Cho**, Jungmin Lee, and Kyoung Mu Lee, “Reweighted Random Walks for Graph Matching,” in *Proceedings of the European Conference on Computer Vision (ECCV)*, 2010. 27% acceptance rate.

**Minsu Cho** and Kyoung Mu Lee, “Authority-Shift Clustering: Hierarchical Clustering by Authority Seeking on Graphs,” in *Proceedings of the IEEE Conf. on Computer Vision and Pattern Recognition (CVPR)*, 2010. 28.8% acceptance rate.

**Minsu Cho**, Young Min Shin, and Kyoung Mu Lee, “Unsupervised Detection and Segmentation of Identical Objects,” in *Proceedings of the IEEE Conf. on Computer Vision and Pattern Recognition (CVPR)*, 2010. Oral presentation, 4.5% acceptance rate.

Jungmin Lee, **Minsu Cho**, and Kyoung Mu Lee, “A Graph Matching Algorithm using Data-Driven MCMC Sampling,” in *Proceedings of the International Conference on Pattern Recognition (ICPR)*, 2010. Oral presentation, 18% acceptance rate.

Young Min Shin, **Minsu Cho**, Kyoung Mu Lee, “Co-Recognition of Actions in Video Pairs,” in *Proceedings of the International Conference on Pattern Recognition (ICPR)*, 2010.

**Minsu Cho**, Jungmin Lee, and Kyoung Mu Lee, “Feature Correspondence and Deformable Object Matching via Agglomerative Correspondence Clustering,” in *Proceedings of the IEEE International Conference on Computer Vision (ICCV)*, 2009. 23.2% acceptance rate.

**Minsu Cho** and Kyoung Mu Lee, “Bilateral Symmetry Detection and Segmentation via Symmetry-Growing,” in *Proceedings of the British Machine Vision Conference (BMVC)*, 2009. Oral presentation, 9.2% acceptance rate.

**Minsu Cho**, Young Min Shin, and Kyoung Mu Lee, “Co-Recognition of Image Pairs by Data-Driven Monte Carlo Image Exploration,” in *Proceedings of the European Conference on Computer Vision (ECCV)*, 2008. 27.9% acceptance rate.



**Minsu Cho** and Kyoung Mu Lee, “Partially Occluded Object-Specific Segmentation in View-Based Recognition,” in *Proceedings of the IEEE Conf. on Computer Vision and Pattern Recognition (CVPR)*, 2007. 28.2% acceptance rate.