

Minhyuk Sung

Assistant Professor, [School of Computing, KAIST](#)

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Research Interests

3D Machine Learning, Geometry Processing, Computer Graphics, Computer Vision.

Education

- 2013 - 2019 | Ph.D. in Computer Science,
[Stanford University](#)
Stanford, CA, USA
Dissertation: [Learning and exploring the compositional structure of 3D data](#)
Advisor: [Leonidas Guibas](#)
- 2008 - 2010 | Master of Science in Computer Science,
[Korea Advanced Institute of Science and Technology \(KAIST\)](#)
Daejeon, South Korea
Thesis: [A Spectral Approach to Shape Matching Using a Heat Kernel Function](#)
Advisor: Sung Yong Shin
- 2004 - 2008 | Bachelor of Science in Computer Science,
[Korea Advanced Institute of Science and Technology \(KAIST\)](#)
Daejeon, South Korea
Top Rank in Computer Science Department

Employment

- Assistant Professor Jan 2021 - Present
[School of Computing, KAIST](#), Daejeon, Republic of Korea
- Research Scientist Oct 2019 - Dec 2020
[Adobe Research](#), San Jose, CA, USA
- Research Intern Jun 2017 - Sep 2017
[Autodesk Research](#), San Francisco, CA, USA
- Research Intern Jun 2016 - Sep 2016
[Adobe Research](#), Seattle, WA, USA
- Research Intern Jun 2015 - Sep 2015
[Google](#), Mountain View, CA, USA
- Research Intern Jun 2014 - Sep 2014
[Google](#), Mountain View, CA, USA
- Researcher Mar 2010 - Jul 2013
[Imaging Media Research Center \(IMRC\)](#)
[Korea Institute of Science and Technology \(KIST\)](#), Seoul, South Korea

Publications

1. **CPFN: Cascaded Primitive Fitting Networks for High-Resolution Point Clouds**
Eric-Tuan Lê, **Minhyuk Sung**, Duygu Ceylan, Radomír Měch, Tamy Boubekeur, Niloy Mitra
ICCV 2021
2. **CTRL-C: Camera calibration TRansformer with Line-Classification**
Jinwoo Lee, Hyunsung Go, Hyunjoon Lee, Sunghyun Cho, **Minhyuk Sung**, Junho Kim
ICCV 2021
3. **DeepMetaHandles: Learning Deformation Meta-Handles of 3D Meshes with Biharmonic Coordinates**
Minghua Liu, **Minhyuk Sung**, Radomír Měch, Hao Su
CVPR 2021 (Oral)
4. **MultiBodySync: Multi-Body Segmentation and Motion Estimation via 3D Scan Synchronization**
Jiahui Huang, He Wang, Tolga Birdal, **Minhyuk Sung**, Federica Arrigoni, Shi-Min Hu, Leonidas Guibas
CVPR 2021 (Oral)
5. **Joint Learning of 3D Shape Retrieval and Deformation**
Mikaela Angelina Uy, Vladimir G. Kim, **Minhyuk Sung**, Noam Aigerman, Siddhartha Chaudhuri, Leonidas Guibas
CVPR 2021
6. **DeformSyncNet: Deformation Transfer via Synchronized Shape Deformation Spaces**
Minhyuk Sung*, Zhenyu Jiang*, Panos Achlioptas, Niloy J. Mitra, Leonidas J. Guibas
(* Equal contribution)
SIGGRAPH Asia 2020
7. **Deformation-Aware 3D Shape Embedding and Retrieval**
Mikaela Angelina Uy, Jingwei Huang, **Minhyuk Sung**, Tolga Birdal, Leonidas Guibas
ECCV 2020
8. **Neural Geometric Parser for Single Image Camera Calibration**
Jinwoo Lee, **Minhyuk Sung**, Hyunjoon Lee, Junho Kim
ECCV 2020
9. **Pix2Surf: Learning Parametric 3D Surface Models of Objects from Images**
Jiahui Lei, Srinath Sridhar, Paul Guerrero, **Minhyuk Sung**, Niloy Mitra, Leonidas Guibas
ECCV 2020
10. **Learning 3D Part Assembly from a Single Image**
Yichen Li*, Kaichun Mo*, Lin Shao, **Minhyuk Sung**, Leonidas Guibas
(* Equal contribution)
ECCV 2020
11. **Supervised Fitting of Geometric Primitives to 3D Point Clouds**
Lingxiao Li*, **Minhyuk Sung***, Anastasia Dubrovina, Li Yi, Leonidas Guibas
(* Equal contribution)
CVPR 2019 (Oral)

12. **GSPN: Generative Shape Proposal Network for 3D Instance Segmentation in Point Cloud**
Li Yi, Wang Zhao, He Wang, **Minhyuk Sung**, Leonidas Guibas
CVPR 2019
13. **Deep Functional Dictionaries: Learning Consistent Semantic Structures on 3D Models from Functions**
Minhyuk Sung, Hao Su, Ronald Yu, Leonidas Guibas
NeurIPS 2018
14. **Learning Fuzzy Set Representations of Partial Shapes on Dual Embedding Spaces**
Minhyuk Sung, Anastasia Dubrovina, Vladimir G. Kim, Leonidas Guibas
SGP 2018 (Symposium on Geometry Processing)
15. **ComplementMe: Weakly-Supervised Component Suggestions for 3D Modeling**
Minhyuk Sung, Hao Su, Vladimir G. Kim, Siddhartha Chaudhuri, Leonidas Guibas
SIGGRAPH Asia 2017
Featured in an ACM SIGGRAPH press release: [[Link 1](#)] [[Link 2](#)]
16. **Data-Driven Structural Priors for Shape Completion**
Minhyuk Sung, Vladimir G. Kim, Roland Angst, Leonidas Guibas
SIGGRAPH Asia 2015
17. **Image Unprojection for 3D Surface Reconstruction: A Triangulation-based Approach**
Min-Hyuk Sung, Hwasup Lim, Hyoung-Gon Kim, Sang Chul Ahn
IEEE International Conference on Image Processing (ICIP) 2013
18. **Finding the M-best Consistent Correspondences between 3D Symmetric Objects**
Min-Hyuk Sung and Junho Kim
Computers & Graphics, Feb.-Apr. 2013.
19. **A Triangulation-Invariant Method for Anisotropic Geodesic Map Computation on Surface Meshes**
Sang Wook Yoo, Joon-Kyung Seong, **Min-Hyuk Sung**, Sung Yong Shin and Elaine Cohen
IEEE Transactions on Visualization and Computer Graphics (TVCG), Oct. 2012.

Honors and Scholarships

- 2019 Doctoral Consortium
ICCV 2019
- 2019 Doctoral Consortium
SIGGRAPH 2019
- 2013 Doctoral Study Abroad Scholarship Recipient Honors
Korea Foundation for Advanced Studies (KFAS)
- 2008-2010 National Science and Engineering Graduate Research Scholarship
(S2-2008-000-00006-2)
Korea Student Aid Foundation (KOSAF)
- 2004-2008 National Science and Engineering Scholarship
Korea Student Aid Foundation (KOSAF)
- 2005-2008 Merit-based Scholarship
Korea Advanced Institute of Science and Technology (KAIST)

Teaching Experience

- 2021 Spring Instructor
[CS492\(H\) Machine Learning for 3D Data](#), KAIST
- 2018 Spring Guest Lecturer
[CS233 Geometric and Topological Data Analysis](#), Stanford
- 2016 Fall Course Assistance
[CS268 Geometric Algorithms](#), Stanford
- 2015 Fall Course Assistance
[CS348A Computer Graphics: Geometric Modeling](#), Stanford
- 2009 Spring Teaching Assistance
[CS202 Problem Solving](#), KAIST

Academic Activities

- Reviewer SIGGRAPH, SIGGRAPH Asia, Eurographics, Pacific Graphics, CVPR, ICCV, 3DV, WACV, ACCV, NeurIPS, ICML, ICLR, ACM TOG, IEEE TVCG, CGF, TVC, C&G, IEEE TPAMI, IEEE RA-L.
- Organizer [Structural and Compositional Learning on 3D Data](#), Workshop at ICCV 2021.

Talks

- Jul 2021 Korea Computer Graphics Society 2021. Invited Speaker.
- May 2021 KAIST Graduate School of Computing. Colloquium Speaker.
- Apr 2021 KAIST Software Graduate Program. Colloquium Speaker.
- Feb 2021 Korean Computer Vision Society. Computer Vision Researcher Forum Speaker.
- Feb 2021 KAIST Graduate School of Culture Technology. Invited Speaker.
- Jan 2021 Kakao Brain. Invited Speaker.

References

Leonidas Guibas	Professor, Stanford University	guibas@cs.stanford.edu
Vladimir Kim	Senior Research Scientist, Adobe Research	vokim@adobe.com
Siddhartha Chaudhuri	Assistant Professor, IIT Bombay	sidch@cse.iitb.ac.in
	Senior Research Scientist, Adobe Research	sidch@adobe.com
Hao (Richard) Zhang	Professor, Simon Fraser University	haoz@cs.sfu.ca