Honghua Li

Curriculum Vitæ

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Academic Position

Staff Algorithm Engineer (2018 – now)
3D Avatar Modeling and Animation, CAD Symbol Spotting, Indoor Scene Reconstruction.
XR Lab, Alibaba Damo Academy

Research Scientist (2015 – 2017)
Geometry Modeling, 3D Fabrication, Scene Synthesis, and Robotics.
Interdisciplinary Research Center, Shandong University

Education

Ph.D. in Computing Science (2010 – 2015)
Simon Fraser University, Canada
Advisors: Hao (Richard) Zhang, and Daniel Cohen-Or
Dissertation: *Shape Compaction via Stacking and Folding*

BS/Master in Computer Science (2004 – 2010)
National University of Defense Technology, China

Publications

1. Zhaohua Zheng, Jianfang Li, Lingjie Zhu, Honghua Li*, Frank Petzold, Ping Tan (*corresponding author)
   GAT-CADNet: Graph Attention Network for Panoptic Symbol Spotting in CAD Drawings
   The IEEE/CVF Computer Vision and Pattern Recognition Conference (CVPR 2022).

2. Zhiwen Fan, Lingjie Zhu, Honghua Li*, Xiaohao Chen, Siyu Zhu, Ping Tan (*corresponding author)
   FloorPlanCAD: A Large-Scale CAD Drawing Dataset for Panoptic Symbol Spotting
   International Conference on Computer Vision (ICCV 2021).

3. Chuan Fang, Shuai Ding, Zilong Dong, Honghua Li, Siyu Zhu, Ping Tan
   Single-Shot is Enough: Panoramic Infrastructure Based Calibration of Multiple Cameras and 3D LiDARs
   IEEE/RSJ International Conference on Intelligent Robots and Systems (IROS 2021).

4. Luwei Yang, Ziqian Bai, Chengzhou Tang, Honghua Li, Yasutaka Furukawa, and Ping Tan
   SANet: Scene Agnostic Network for Camera Localization
   International Conference on Computer Vision (ICCV 2019).

5. Xuelin Chen*, Honghua Li*, Chi-Wing Fu , Hao Zhang, Daniel Cohen-Or, Baoquan Chen
   (*equal contribution)
   3D Fabrication with Universal Building Blocks and Pyramidal Shells
   ACM Transactions on Graphics (SIGGRAPH Asia 2018).

6. Rui Ma*, Honghua Li*, Changqing Zou, Zicheng Liao, Xin Tong, Hao Zhang (*equal contribution)
   Action-Driven 3D Indoor Scene Evolution
   ACM Transactions on Graphics (SIGGRAPH Asia 2016), 35(6).

7. Changqing Zou, Tianfan Xue, Xiaojiang Peng, Honghua Li, Baocheng Zhang, Ping Tan, Jianzhuang Liu
   An Example-Based Approach to 3D Man-made Object Reconstruction from Line Drawings
   Pattern Recongnition 2016.

8. Hao Li, Guowei Wan, Honghua Li, Andrei Sharf, Kai Xu, Baoquan Chen
   Mobility Fitting Using RANSAC 4D
   Computer Graphics Forum (SGP 2016), 35(5).

9. Honghua Li, and Hao Zhang
   Shape Compaction
   Book chapter in **Perspectives in Shape Analysis**, Dagstuhl Seminar, 2015.

10. Honghua Li*, Ruizhen Hu*, Ibraheem Alhashim, and Hao Zhang (*equal contribution)
    Foldabilizing Furniture
    ACM Transactions on Graphics (SIGGRAPH 2015), 34(6).

11. Ruizhen Hu, Honghua Li, Hao Zhang and Daniel Cohen-Or
    Approximate Pyramidal Shape Decomposition
    ACM Transactions on Graphics (SIGGRAPH Asia 2014), 33(6).

12. Ibraheem Alhashim, Honghua Li, Kai Xu, Junjie Cao, Rui Ma, Hao Zhang
    Topology-Varying 3D Shape Creation via Structural Blending
    ACM Transactions on Graphics (SIGGRAPH 2014), 33(4).

13. Honghua Li, Hao Zhang, Yanzhen Wang, Junjie Cao, Ariel Shamir and Daniel Cohen-Or
    Curve Style Analysis in a Set of Shapes
    Computer Graphics Forum (Eurographics 2014), 32(6).

14. Honghua Li, Ibraheem Alhashim, Hao Zhang, Ariel Shamir and Daniel Cohen-Or
    Stackabilization
    ACM Transactions on Graphics (SIGGRAPH Aisa 2012), 31(6).

15. Kai Xu, Honghua Li, Hao Zhang, Daniel Cohen-Or, Yueshan Xiong, and Zhi-Quan Cheng
    Style-Content Separation by Anisotropic Part Scales
    ACM Transactions on Graphics (SIGGRAPH Aisa 2010), 29(5).

16. Hao Fang, Zhi-Quan Cheng, Hong-Hua Li, Jun Li, Yin chen, and Gang Dang
    2D Shape Deformation and Registration Using Structural Graph Nodes
    International Conference on Computer Animation and Social Agents, short paper, 2010.

17. Z.-Q. Cheng, W. Jiang, G. Dang, R. Martin, J. Li, H. Li, Y. Chen, Y. Wang, B. Li, K. Xu, and S. Jin
    Non-rigid Registration in 3D Implicit Vector Space
    In Proc. of Shape Modeling International, Aix-en-Provence, France, 2010.

18. Jun Li, Zhiquan Cheng, Honghua Li, and Shiyao Jin
    An algorithm of Laplacian-based 3D surface registration
    Journal of System Simulation, Vol. 21 Suppl. 1, pp. 113-117, 2009. (In Chinese)

19. Honghua Li, Zhiquan Cheng, Jun Li, and Shiyao Jin
    Mesh Dense Correspondence Computation based on Harmonic Field
    Journal of System Simulation, Vol. 21 Suppl. 1, pp. 6-9, 2009. (In Chinese)

20. Honghua Li, Zhiquan Cheng, Jun Li, and Shiyao Jin
    3D Surface Correspondence based on SIFT Features of Depth Image
    Journal of System Simulation, Vol. 21 Suppl. 1, pp. 15-19, 2009. (In Chinese)

Professional Service

Program Committee: ICVRV 2017

Reviewer:
SIGGRAPH 2016, SIGGRAPH Asia 2017, Eurographics 2015, 2017, 2018
Graphics Interface 2014, Graphical Models 2015, Computer Graphics 2016, ICVRV 2017 Machine Vision and Application 2018

Work Experience

Machine Vision and Graphics Scientist, July – Dec 2017
Rentong Intelligence Inc., Shenzhen, China
Topics: 2D and 3D object recognition and localization for industrial robotics

3D Modeling Scientist, July 2015 – Dec 2016
Avatar Technology Inc., Changsha, China
Topics: 3D human body model acquisition

Research Assistant, Sep 2012 – Dec 2012
Simon Fraser University iWonder Inc., Canada
Topics: Interactive mobile application for 3D shape assembly on iOS Faculty: Hao (Richard) Zhang

Teaching Assistant, Sep 2010 – Aug 2014
Simon Fraser University, Canada
Courses: Data Structure, Computer Architecture, Computer Graphics Faculty: David G. Mitchell, Tony Dixon, Hao Zhang, and Ping Tan

Awards & Honors

2014   President's PhD Scholarship, SFU
2014   Travel and Minor Research Award, SFU
2014   Runner-up of FAS Faculty Heat of 3MT Competition, SFU
2013   Graduate Fellowship, SFU
2012   Travel and Minor Research Award, SFU
2012   Graduate Fellowship, SFU
2011   Graduate Fellowship, SFU
2010   China Scholar Council 4-year PhD Scholarship

2009   Bronze Medal of Graduate English Debating Competition, NUDT
2009   Fund of Innovation($<3\%$), NUDT
2008   Bronze Medal of Undergraduate Contest in Computer Works, Hunan
2008   Galaxy First-Class Scholarship ($<2\%$), NUDT
2007   Galaxy Second-Class Scholarship ($<2\%$), NUDT
2006   Second Prize of Mathematic Contest in Modeling, Hunan
2005–2009   Outstanding Student, NUDT

Press

Asian Pacific Post, 2015
Fold your toaster into a pocket-square

SFU News, 2015
Computing science grad finds way to create compact furniture

3DPrint.com, 2015
Chinese researchers aim to fold up your whole room with 3D printed, foldable furniture

South China Morning Post, 2015
Move over IKEA: Space-saving foldable furniture may be just a mouse click away

References

Hao (Richard) Zhang   Simon Fraser Univesity, Canada

Daniel Cohen-Or   Tel Aviv University, Israel

Baoquan Chen   Shandong University, China

Ariel Shamir   Interdisciplinary Center, Israel

Andrei Sharf   Ben-Gurion University, Israel

Karan Singh   University of Toronto, Canada

Ping Tan   Simon Fraser Univesity, Canada

Xin Tong   Microsoft Research Asia, China

Chi-Wing Fu   Chinese University of Hong Kong, Hong Kong