HYUNHO HA (하현호)

Ph.D. candidate KAIST (Korea Advanced Institute of Science and Technology)
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RESEARCH INTERESTS

My research interests include various applications of **computer graphics** and **vision**, focusing on **real-time acquisition of 3D geometry and material appearance**. Specifically, I have developed on real-time acquisition systems with lightweight sensors while guarantees the quality of the existing high-cost scanning system. Designing object acquisition algorithms that maintain quality even in complex environments, such as dynamic objects, to address various factors restricting users during object acquisition.

EDUCATION

03/2019–Present **KAIST, PhD Student in Computer Science**
– Advisor: Prof. Min H. Kim

03/2017–02/2019 **KAIST, M.S in Computer Science**
– Advisor: Prof. Min H. Kim
– Thesis: Dynamic Acquisition of SVBRDF, Geometry and Motion Using a Single RGBD Camera

03/2013–02/2017 **KAIST, B.S in Computer Science**
– Graduated with *Cum Laude*

03/2010–02/2013 **Korea Science Academy of KAIST**

PUBLICATIONS

International Conference Proceedings/Journals:

[C1] **Hyunho Ha**, Joo Ho Lee, Andreas Meuleman, Min H. Kim (2021) "NormalFusion: Real-Time Acquisition of Surface Normals for High-Resolution RGB-D Scanning," Proc. IEEE Computer Vision and Pattern Recognition (**CVPR**), Nashville, Tennessee, USA, June 19–25, 2021

[C2] **Hyunho Ha**, Seung-Hwan Baek, Giljoo Nam, Min H. Kim (2020), "Progressive Acquisition of SVBRDF and Shape in Motion," Computer Graphics Forum (CGF), presented at **Eurographics** 2021, Vienna, Austria, May 3–7, 2021 **(SCI-IF=2.116)**

[C3] Joo Ho Lee, **Hyunho Ha**, Yue Dong, Xin Tong, Min H. Kim (2020) "TextureFusion: High-Quality Texture Acquisition for Real-Time RGB-D Scanning," Proc. IEEE Computer Vision and Pattern Recognition (**CVPR Oral** 2020, **Best Paper Finalist**), Seattle, WA, USA, June 14–19, 2020

[C4] Mustafa B. Yaldiz, Andreas Meuleman, Hyeonjoong Jang, **Hyunho Ha**, Min H. Kim (2021), "DeepFormableTag: End-to-end Generation and Recognition of Deformable Fiducial Markers," ACM Transactions on Graphics (ACM TOG), 40(4), presented at **SIGGRAPH** 2021, Aug 9–Aug 13, 2021 **(SCI-IF=6.495)**

[C5] Hyeonjoong Jang, Daniel S. Jeon, **Hyunho Ha**, Min H. Kim (2019), "Fast Omnidirectional Depth Densification," Proc. International Symposium on Visual Computing (ISVC 2019, Oral), Lake Tahoe, Nevada, USA, October 7–9, 2019

RESEARCH PROJECTS

2021–Presents	**High fidelity 3D face reconstruction** – High fidelity 3D face reconstruction system to create digital human
2019–2020	**Online texture reconstruction**, *Microsoft Research Asia* – Textured mesh reconstruction
2018–2020	**Texture reconstruction**, *GigaKOREA* – Temporally and spatially consistent 2D texture atlas reconstruction
2017–2019	**Dynamic scene acquisition**, *ETRI* – Dynamic scene reconstruction using a single RGB-D sensor

PATENTS

[1] Min Hyuk Kim, Joo Ho Lee, Hyunjin Ku, Dahyun Kang, **Hyunho Ha**, "Capturing spatially-varying reflectance functions using a mobile phone with a flash", KR Patent App.: 10-2020-0130867, published in October 12, 2020.

TEACHING EXPERIENCE

Teaching Assistants at KAIST, Korea

CS380	Introduction to Computer Graphics (2017 Spring, 2018 Spring)
CS482	Interactive Computer Graphics (2019 Fall)
CS484	Introduction to Computer Vision (2018 Fall)
CS576	Computer Vision (2019 Spring)
CS580	Computer Graphics (2020 Spring)

REFERENCES

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