

Han-Wei Kung

Basic Info

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Education

2014–2019	Ph.D. in Media Arts and Technology <i>University of California at Santa Barbara, Santa Barbara, California, USA</i> Thesis: Stylized 3D Scene Synthesis in Virtual Reality
2012–2014	M.S. in Visualization <i>Texas A&M University, College Station, Texas, USA</i> Thesis: Curved Pattern Origami
2010–2011	M.Eng. in Computer Science <i>Cornell University, Ithaca, New York, USA</i>
2003–2007	B.S. in Computer Science <i>National Chiao Tung University, Hsinchu, Taiwan</i>

Work Experience

JUNE 2023–NOW	Research Fellow <i>University of Trento, Italy</i> - Research AI-generated faces and bodies.
OCT 2021–MAY 2023	Research Fellow <i>National University of Singapore, Singapore</i> - Research neural rendering for facial and body reenactment.
JUN 2017–SEP 2021	Software Engineer <i>Pinscreen, Los Angeles, California, USA</i> - Synthesized face images and videos using deep neural networks. - Processed face images for building deep learning models that generate 3D face models and textures. - Built pipeline that automates data processing in the Unity game engine. - Developed interfaces that allow users to download and render 3D human models from 2D pictures with the Unity game engine. - Collaborated with team members to integrate art assets (3D models, animation, and materials) for real-time visual content.
JUN 2016–SEP 2016	Research and Development Shading Intern <i>DreamWorks Animation, Los Angeles, California, USA</i> - Developed a wireframe shader, which provides the edge flow and topology information of a 3D model. - Developed a curvature shader, which visualizes mesh curvature by measuring the angle between the surface normal and its neighboring normals. - Developed a blend normal shader, which shades objects by interpolating colors based on the angle between the normal at the point being shaded and the viewing direction.

Teaching Experience

JAN 2015–JUN 2017	Teaching Assistant/Grader <i>University of California at Santa Barbara, Santa Barbara, California, USA</i> - Teaching Assistant for CS 154: Computer Architecture, CS 140: Parallel Scientific Computing, and CS 16/24: Problem Solving with Computers I/II. - Grader for CS 185: Human-Computer Interaction, CS 225: Information Theory, and CS 281B: Advanced Topics in Computer Vision.
AUG 2013–MAY 2014	Teaching Assistant <i>Texas A&M University, College Station, Texas, USA</i> - Teaching assistant for VIST 270/271: Computing for Visualization I/II.

Awards

2016	Yin Chin Scholarship <i>Yin Chin Foundation of USA, Los Angeles, California, USA</i>
2015	Study Abroad Scholarship <i>Taiwan Ministry of Education, Taipei, Taiwan</i>
2012	Departmental Honors Scholarship <i>Texas A&M University, College Station, Texas, USA</i>
2006	Study Abroad Scholarship <i>National Chiao Tung University, Hsinchu, Taiwan</i>
2006	Zyxxel Scholarship <i>Zyxxel Communications, Hsinchu, Taiwan</i>
2003–2007	Presidential Award <i>National Chiao Tung University, Hsinchu, Taiwan</i>

Publications

1. **Normalized avatar synthesis using stylegan and perceptual refinement.** Huiwen Luo, Koki Nagano, **Han-Wei Kung**, Qingguo Xu, Zejian Wang, Lingyu Wei, Liwen Hu, and Hao Li. *Proceedings of the IEEE/CVF Conference on Computer Vision and Pattern Recognition*. 2021.
2. **AI-synthesized avatars: from real-time deepfakes to virtual AI companions.** Zejian Wang, Koki Nagano, Hao Li, Liwen Hu, Lain Goldwhite, **Han-Wei Kung**, Aviral Agarwal, Lingyu Wei, Yenchun Chen, Qingguo Xu, Jaewoo Seo, and Huiwen Luo. *ACM SIGGRAPH 2020 Real-Time Live!*. 2020.
3. **Into the vitality: Responsive modulation in graphics.** **Han-Wei Kung**. *16th EuroVR International Conference–EuroVR*. 2019.
4. **Pinscreen avatars in your pocket: mobile pagan engine and personalized gaming.** Koki Nagano, Shunsuke Saito, Lain Goldwhite, Kyle San, Aaron Hong, Liwen Hu, Lingyu Wei, Jun Xing, Qingguo Xu, **Han-Wei Kung**, Jiale Kuang, Aviral Agarwal, Erik Castellanos, Jaewoo Seo, Jens Fursund, and Hao Li. *SIGGRAPH Asia 2018 Real-Time Live!*. 2018.
5. **Deep learning-based photoreal avatars for online virtual worlds in iOS.** Koki Nagano, Jaewoo Seo, Kyle San, Aaron Hong, Mclean Goldwhite, Jun Xing, Stuti Rastogi, Jiale Kuang, Aviral Agarwal, **Han-Wei Kung**, Caleb Arthur, Carrie Sun, Stephen Chen, Jens Fursund, and Hao Li. *ACM SIGGRAPH 2018 Real-Time Live!*. 2018.

6. **Hairnet: Single-view hair reconstruction using convolutional neural networks.** Yi Zhou, Liwen Hu, Jun Xing, Weikai Chen, **Han-Wei Kung**, Xin Tong, and Hao Li. *Proceedings of the European Conference on Computer Vision (ECCV)*. 2018.
7. **Design tools for patterned self-folding reconfigurable structures based on programmable active laminates.** Edwin A. Peraza Hernandez, Darren J. Hartl, Richard J. Malak Jr, Ergun Akleman, Ozgur Gonen, and **Han-Wei Kung**. *Journal of Mechanisms and Robotics*. 2016.
8. **Towards building smart self-folding structures.** Edwin A. Peraza Hernandez, Shiyu Hu, **Han-Wei Kung**, Darren Hartl, and Ergun Akleman. *Computers & Graphics*. 2013.