

Heming Zhu

Education

- Feb 2022 – **Max Planck Institut Für Informatik, Saarbrücken**, Saarland, Germany.
Now Ph.D. student in Visual Computing and Artificial Intelligence
- Sept 2017 – **Zhejiang University, Hangzhou**, Zhejiang, China.
Jun 2020 M.Eng in Computer Science & Technology.
- Sept 2013 – **Zhejiang University, Hangzhou**, Zhejiang, China.
Jul 2017 B.Eng in Computer Science & Technology.

Publications and Manuscripts

- Nov 2023 **ASH: Animatable Gaussian Splats for Efficient and Photoreal Human Rendering.**
Haokai Pang[†], Heming Zhu[†], Adam Kortylewski, Christian Theobalt, Marc Habermann*([†]Joint first authors)
In 2024 IEEE/CVF Computer Vision and Pattern Recognition Conference (CVPR 2024)
The paper proposed real-time animatable Gaussian splats for rendering animatable humans.
- Oct 2023 **TriHuman: A Real-time and Controllable Tri-plane Representation for Detailed Human Geometry and Appearance Synthesis.**
Heming Zhu, Fangneng Zhan, Christian Theobalt, Marc Habermann*
Arxiv
The paper features a real-time approach to generate pose-controllable, high-quality human geometry and rendering.
- July 2023 **SketchMetaFace: A Learning-based Sketching Interface for High-fidelity 3D Character Face Modeling.**
Zhongjin Luo, Dong Du, Heming Zhu, Yizhou Yu, Hongbo Fu, Xiaoguang Han*,
In IEEE Transactions on Visualization and Computer Graphics(TVCG)
The paper proposed an interactive sketch-based modeling system to model character faces.
- June 2022 **Registering Explicit to Implicit: Towards High-Fidelity Garment mesh Reconstruction from Single Images.**
Heming Zhu, Lingteng Qiu, Yuda Qiu, Xiaoguang Han*
In 2022 IEEE/CVF Computer Vision and Pattern Recognition Conference(CVPR 2022)
This paper proposed to reconstruct high-fidelity, topology-consistent and layered garment meshes from single in-the-wild images.
- August 2021 **SimpModeling: Sketching Implicit Field to Guide Mesh Modeling for 3D Animalmorphic Head Design.**
Zhongjin Luo, Jie Zhou, Heming Zhu, Dong Du, Xiaoguang Han*, Hongbo Fu
In 34th ACM User Interface Software and Technology Symposium(UIST 2021)
The paper proposed a interactive sketch-based modeling system to model animal-morphic heads.
- August 2020 **Deep Fashion3D: A Dataset and Benchmark for 3D Garment Reconstruction from Single Images.**
Heming Zhu, Yu Cao, Hang Jin, Weikai Chen, Dong Du, Zhangye Wang, Shuguang Cui, Xiaoguang Han*
In 2020 European Conference on Computer Vision(ECCV 2020) as oral representation (top 2%)
The paper proposed a method for single-image garment reconstruction and a large garment dataset with rich annotations.

- November 2020 **Learning Part Generation and Assembly for Sketching Man-Made Objects.**
Dong Du, Heming Zhu, Yinyu Nie, Yizhou Yu, Shuguang Cui, Ligang Liu, Xiaoguang Han*
In Computer Graphics Forum(CGF).
An interactive sketch-based modeling system which supports parts generation and assembly.
- April 2018 **HomeFinder Revisited: Finding Ideal Homes with Reachability-Centric Multi-Criteria Decision Making.**
Di Weng, Heming Zhu, Jie Bao, Yu Zheng, Yingcai Wu*
In 2018 CHI Conference on Human Factors in Computing Systems(CHI 2018)
The paper proposed a visualization application which assists users to find ideal homes based on reachability constraints. An improved algorithm is proposed to support real-time reachability query.

Research Experience

- Feb 2022 – Now **Ph.D. Student**, *Max Planck Institut Für Informatik*, Saarland Informatics Campus, Saarbrücken,
Advisor: Prof. Christian Theobalt and Marc Habermann.
 - Real-time, animatable human modeling and synthesis
 - Clothing reconstruction
- Mar 2019 – Jan 2022 **Research Assistant**, *Shenzhen Research of Big Data*, The Chinese University of Hong Kong,
Shenzhen, Advisor: Prof. Xiaoguang Han.
 - 3D garment mesh reconstruction from single image
 - Sketch based modeling
 - 3D human pose and shape estimation
- Jul 2016 – Mar 2019 **Research Assistant**, *CAD & CG Lab*, Zhejiang University, Advisor: Prof. Yingcai Wu.
Research in the visualization of urban data.
 - Reachability-centric home-finding system.
- Sept 2013 – Jun 2016 **Research Assistant**, *CAD & CG Lab*, Zhejiang University, Advisor: Prof. Zhangye Wang.
Research in real-time fluid simulation and photo-realistic rendering
 - Fluid simulation based on SPH.

Talks and Teachings

- Sept 2017 – Jan 2018 **Computer Graphics**, Zhejiang University.
A computer graphics course for senior undergraduate students majoring in computer science.

Honors and Awards

- 2020 **CCF Graphics Open Source Dataset Award**, Issued by CCF.
- 2018 **National Scholarship**, Issued by Zhejiang University.
- 2018 **ACM-ICPC Zhejiang University Programming Contest**, Issued by Zhejiang University.
Second Price Rank: 16/135
- 2016 **ACM-ICPC Zhejiang Provincial Programming Contest**, Issued by Zhejiang University.
Silver Medal
- 2016 **ACM-ICPC Zhejiang University Programming Contest**, Issued by Zhejiang University.
Second Price Rank:7/113
- 2016 **The Mathematical Contest In Modeling**, Issued by COMAP.
Meritorious Winner
- 2015 **ACM-ICPC Zhejiang Provincial Programming Contest**, Issued by Zhejiang University.
Silver Medal
- 2015 **ACM-ICPC Zhejiang University Programming Contest**, Issued by Zhejiang University.
Second Price Rank:10/114

Skills

Development Tensorflow, PyTorch, Node.js, AngularJS, VueJS, Unity3D, OpenGL, WebGL

Coding C/C++, Python, Cuda, C#, Objective-C, JavaScript, HTML/CSS, Latex, Markdown, Bash
Software Meshlab, Blender, Houdini
Language lets: **7.0/9.0**