

HUAMIN WANG

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Interests

High-performance, high-fidelity simulations of rigid and deformable bodies are pivotal in shaping the future of the digital world and physics-aware artificial intelligence. My research focuses on achieving this goal by leveraging next-generation graphics hardware and generative models. Specifically, my work can be categorized into three main areas:

- **Hardware-Accelerated Physics-Based Simulation** Customizing simulation pipelines and fine-tuning algorithms to significantly enhance the performance of physics-based simulations across various hardware platforms, including GPUs, SoCs, and NPUs.
- **Generative AI-Enhanced Physics Simulations** Developing novel AI models to augment physics-based simulations of deformable objects, capturing quasistatic and dynamic details that are challenging or computationally expensive to generate through traditional simulations.
- **Physical Property Acquisition for Digital Twins** Extracting the physical properties of rigid and deformable objects from the real world, enabling simulations that accurately replicate their behaviors in the digital world for applications such as visualization, embodied AI, and beyond.

Appointments

- 2022–Present **Chief Scientist**, *Linctex Digital Inc. (Style3D)*, Hangzhou, China.
Supervising the Style3D research team worldwide
- 2017–2022 **Associate Professor (tenured)**, *The Ohio State University*, Columbus, OH, USA.
The Department of Computer Science and Engineering
- 2011–2017 **Assistant Professor**, *The Ohio State University*, Columbus, OH, USA.
The Department of Computer Science and Engineering
- 2009–2011 **Postdoctoral Researcher**, *The University of California, Berkeley*, Berkeley, CA, USA.
Advisor: Prof. James F. O'Brien and Prof. Ravi Ramamoorthi
- 2004–2009 **Research Assistant**, *Georgia Institute of Technology*, Atlanta, GA, USA.
Advisor: Prof. Greg Turk
- Fall 2007 **Research Intern**, *Microsoft Research Asia*, Beijing, China.
Advisor: Dr. Kun Zhou and Dr. Baining Guo
- Fall 2007 **Research Intern**, *Microsoft Research*, Redmond, WA, USA.
Advisor: Dr. Hugues Hoppe
- Fall 2007 **Research Intern**, *Adobe Research*, San Jose, CA, USA.
Advisor: Dr. Gavin Miller
- 2004 **Research Assistant**, *Stanford University*, Stanford, CA, USA.
Advisor: Prof. Ron Fedkiw

Education

- 2004–2009 **Ph.D. in Computer Science**, *Georgia Institute of Technology*, Atlanta, GA, USA.
Advisor: Prof. Greg Turk
- 2003–2004 **M.S. in Computer Science**, *Stanford University*, Stanford, CA, USA.
Advisor: Prof. Leo Guibas
- 1998–2002 **B.Eng. in Computer Science and Engineering**, *Zhejiang University*, Hangzhou, China.
with highest honors from the Mixed class '98

Publications

Journal and Conference Papers

- 2025 Feng Zhou, Ruiyang Liu, Chen Liu, Gaofeng He, Yong-Lu Li, Xiaogang Jin, and Huamin Wang. Design2GarmentCode: Turning design concepts to tangible garments through program synthesis. In *The IEEE/CVF Conference on Computer Vision and Pattern Recognition (CVPR)*, CVPR '25, pages 23712–23722, jun 2025.
- 2025 Diyang Zhang, Zhendong Wang, Zegao Liu, Xinming Pei, Weiwei Xu, and Huamin Wang. Physics-inspired estimation of optimal cloth mesh resolution. In *Proceedings of the Special Interest Group on Computer Graphics and Interactive Techniques Conference Conference Papers*, SIGGRAPH Conference Papers '25, New York, NY, USA, 2025. Association for Computing Machinery.
- 2025 Jun Ma, Qian He, Gaofeng He, Huang Chen, Chen Liu, Xiaogang Jin, and Huamin Wang. One-shot embroidery customization via contrastive LoRA modulation. *ACM Trans. Graph. (SIGGRAPH Asia)*, volume 44, number 6. Association for Computing Machinery, December 2025.
- 2025 Zixuan Lu, Ziheng Liu, Lei Lan, Huamin Wang, Yuko Ishiwaka, Chenfanfu Jiang, Kui Wu, and Yin Yang. High-performance CPU cloth simulation using domain-decomposed projective dynamics. *ACM Trans. Graph. (SIGGRAPH)*, volume 44, number 4. Association for Computing Machinery, July 2025.
- 2025 Siran Li, Ruiyang Liu, Chen Liu, Zhendong Wang, Gaofeng He, Yong-Lu Li, Xiaogang Jin, and Huamin Wang. GarmageNet: A multimodal generative framework for sewing pattern design and generic garment modeling. *ACM Trans. Graph. (SIGGRAPH Asia)*, volume 44, number 6. Association for Computing Machinery, December 2025.
- 2025 Boqian Li, Xuan Li, Ying Jiang, Tianyi Xie, Feng Gao, Huamin Wang, Yin Yang, and Chenfanfu Jiang. GarmentDreamer: 3DGS guided garment synthesis with diverse geometry and texture details. In *International Conference on 3D Vision (3DV)*, March 2025.
- 2025 Lei Lan, Zixuan Lu, Chun Yuan, Weiwei Xu, Hao Su, Huamin Wang, Chenfanfu Jiang, and Yin Yang. JGS2: Near second-order converging Jacobi/Gauss-Seidel for GPU elastodynamics. *ACM Trans. Graph. (SIGGRAPH)*, volume 44, number 4. Association for Computing Machinery, July 2025.
- 2025 Chengzhu He, Zhendong Wang, Zhaorui Meng, Junfeng Yao, Shihui Guo, and Huamin Wang. Automated task scheduling for cloth and deformable body simulations in heterogeneous computing environments. In *Proceedings of the Special Interest Group on Computer Graphics and Interactive Techniques Conference Conference Papers*, SIGGRAPH Conference Papers '25, New York, NY, USA, 2025. Association for Computing Machinery.

- 2025 Dewen Guo, Zhendong Wang, Zegao Liu, Sheng Li, Guoping Wang, Yin Yang, and Huamin Wang. Progressive outfit assembly and instantaneous pose transfer. In *SIGGRAPH Asia 2025 Conference Papers*, SA Conference papers '25, New York, NY, USA, dec 2025. Association for Computing Machinery.
- 2025 Dewen Guo, Zhendong Wang, Zegao Liu, Sheng Li, Guoping Wang, Yin Yang, and Huamin Wang. Fast physics-based modeling of knots and ties using templates. In *Proceedings of the Special Interest Group on Computer Graphics and Interactive Techniques Conference Conference Papers*, SIGGRAPH Conference Papers '25, New York, NY, USA, 2025. Association for Computing Machinery.
- 2025 Yaoan Gao, Jiamin Xu, James Tompkin, Qi Wang, Zheng Dong, Hujun Bao, Yujun Shen, Huamin Wang, Changqing Zou, and Weiwei Xu. Efficient object reconstruction with differentiable area light shading. In *SIGGRAPH Asia 2025 Conference Papers*, SA Conference papers '25, New York, NY, USA, dec 2025. Association for Computing Machinery.
- 2024 Chun Yuan, Haoyang Shi, Lei Lan, Yuxing Qiu, Cem Yuksel, Huamin Wang, Chenfanfu Jiang, Kui Wu, and Yin Yang. Volumetric homogenization for knitwear simulation. *ACM Trans. Graph. (SIGGRAPH Asia)*, volume 43, number 6. Association for Computing Machinery, December 2024.
- 2024 Zixuan Lu, Xiaowei He, Yuzhong Guo, Xuehui Liu, and Huamin Wang. Projective peridynamic modeling of hyperelastic membranes with contact. *IEEE Transactions on Visualization and Computer Graphics*, volume 30, number 8, pages 4601–4614, aug 2024.
- 2024 Chen Liu, Weiwei Xu, Yin Yang, and Huamin Wang. Automatic digital garment initialization from sewing patterns. *ACM Trans. Graph. (SIGGRAPH)*, volume 43, number 4. Association for Computing Machinery, July 2024.
- 2024 Xuan Li, Minchen Li, Xuchen Han, Huamin Wang, Yin Yang, and Chenfanfu Jiang. A dynamic duo of finite elements and material points. In *ACM SIGGRAPH 2024 Conference Papers*, SIGGRAPH '24, New York, NY, USA, 2024. Association for Computing Machinery.
- 2024 Lei Lan, Zixuan Lu, Jingyi Long, Chun Yuan, Xuan Li, Xiaowei He, Huamin Wang, Chenfanfu Jiang, and Yin Yang. Efficient GPU cloth simulation with non-distance barriers and subspace reuse. *ACM Trans. Graph. (SIGGRAPH Asia)*, volume 43, number 6. Association for Computing Machinery, December 2024.
- 2024 Ying Jiang, Chang Yu, Tianyi Xie, Xuan Li, Yutao Feng, Huamin Wang, Minchen Li, Henry Lau, Feng Gao, Yin Yang, and Chenfanfu Jiang. VR-GS: A physical dynamics-aware interactive Gaussian splatting system in virtual reality. In *ACM SIGGRAPH 2024 Conference Papers*, SIGGRAPH '24, New York, NY, USA, 2024. Association for Computing Machinery.
- 2024 Rui Hu, Qian He, Gaofeng He, Jiedong Zhuang, Huang Chen, Huafeng Liu, and Huamin Wang. FashionR2R: Texture-preserving rendered-to-real image translation with diffusion models. In *Proceedings of the 38th International Conference on Neural Information Processing Systems*, NIPS '24, Red Hook, NY, USA, 2024. Curran Associates Inc.
- 2024 Xudong Feng, Huamin Wang, Yin Yang, and Weiwei Xu. Neural-assisted homogenization of yarn-level cloth. In *ACM SIGGRAPH 2024 Conference Papers*, SIGGRAPH '24, New York, NY, USA, 2024. Association for Computing Machinery.
- 2024 Pinxuan Dai, Jiamin Xu, Wenxiang Xie, Xinguo Liu, Huamin Wang, and Weiwei Xu. High-quality surface reconstruction using Gaussian surfels. In *ACM SIGGRAPH 2024 Conference Papers*, SIGGRAPH '24, New York, NY, USA, 2024. Association for Computing Machinery.

- 2023 Zhendong Wang, Yin Yang, and Huamin Wang. Stable discrete bending by analytic eigensystem and adaptive orthotropic geometric stiffness. *ACM Trans. Graph. (SIGGRAPH Asia)*, volume 42, number 6. Association for Computing Machinery, dec 2023.
- 2023 Tianyu Wang, Jiong Chen, Dongping Li, Xiaowei Liu, Huamin Wang, and Kun Zhou. Fast GPU-based two-way continuous collision handling. *ACM Trans. Graph. (SIGGRAPH)*, volume 42, number 5. Association for Computing Machinery, jul 2023.
- 2023 Xuan Li, Yu Fang, Lei Lan, Huamin Wang, Yin Yang, Minchen Li, and Chenfanfu Jiang. Subspace-preconditioned GPU projective dynamics with contact for cloth simulation. In *SIGGRAPH Asia 2023 Conference Papers*, SA '23, New York, NY, USA, dec 2023. Association for Computing Machinery.
- 2023 Lei Lan, Minchen Li, Chenfanfu Jiang, Huamin Wang, and Yin Yang. Second-order stencil descent for interior-point hyperelasticity. *ACM Trans. Graph. (SIGGRAPH)*, volume 42, number 4. Association for Computing Machinery, jul 2023.
- 2022 Botao Wu, Zhendong Wang, and Huamin Wang. A GPU-based multilevel additive Schwarz preconditioner for cloth and deformable body simulation. *ACM Trans. Graph. (SIGGRAPH)*, volume 41, number 4. Association for Computing Machinery, jul 2022.
- 2022 Xudong Feng, Wenchao Huang, Weiwei Xu, and Huamin Wang. Learning-based bending stiffness parameter estimation by a drape tester. *ACM Trans. Graph. (SIGGRAPH Asia)*, volume 41, number 6. Association for Computing Machinery, nov 2022.
- 2021 Huamin Wang. GPU-based simulation of cloth wrinkles at submillimeter levels. *ACM Trans. Graph. (SIGGRAPH)*, volume 40, number 4. Association for Computing Machinery, jul 2021.
- 2021 Xudong Feng, Jiafeng Liu, Huamin Wang, Yin Yang, Hujun Bao, Bernd Bickel, and Weiwei Xu. Computational design of skinned quad-robots. *IEEE Transactions on Visualization and Computer Graphics*, volume 27, number 6, pages 2881–2895, jun 2021.
- 2020 Guowei Yan, Zhili Chen, Jimei Yang, and Huamin Wang. Interactive liquid splash modeling by user sketches. *ACM Trans. Graph. (SIGGRAPH Asia)*, volume 39, number 6. Association for Computing Machinery, nov 2020.
- 2020 Longhua Wu, Botao Wu, Yin Yang, and Huamin Wang. A safe and fast repulsion method for GPU-based cloth self collisions. *ACM Trans. Graph. (SIGGRAPH)*, volume 40, number 1. Association for Computing Machinery, dec 2020.
- 2020 Ran Luo, Tianjia Shao, Huamin Wang, Weiwei Xu, Xiang Chen, Kun Zhou, and Yin Yang. NNWarp: Neural network-based nonlinear deformation. *IEEE Transactions on Visualization and Computer Graphics*, volume 26, number 4, pages 1745–1759, apr 2020.
- 2020 Lei Lan, Ran Luo, Marco Fratarcangeli, Weiwei Xu, Huamin Wang, Xiaohu Guo, Junfeng Yao, and Yin Yang. Medial elastics: Efficient and collision-ready deformation via medial axis transform. *ACM Trans. Graph. (SIGGRAPH)*, volume 39, number 3. Association for Computing Machinery, apr 2020.
- 2018 Guowei Yan, Wei Li, Ruigang Yang, and Huamin Wang. Inexact descent methods for elastic parameter optimization. *ACM Trans. Graph. (SIGGRAPH Asia)*, volume 37, number 6. Association for Computing Machinery, dec 2018.
- 2018 Zhendong Wang, Longhua Wu, Marco Fratarcangeli, Min Tang, and Huamin Wang. Parallel multigrid for nonlinear cloth simulation. *Computer Graphics Forum (Pacific Graphics)*, volume 37, number 7, pages 131–141, oct 2018.

- 2018 Huamin Wang. Rule-free sewing pattern adjustment with precision and efficiency. *ACM Trans. Graph. (SIGGRAPH)*, volume 37, number 4. Association for Computing Machinery, jul 2018.
- 2018 Rajaditya Mukherjee, Longhua Wu, and Huamin Wang. Interactive two-way shape design of elastic bodies. *Proc. ACM Comput. Graph. Interact. Tech. (I3D)*, volume 1, number 1. Association for Computing Machinery, jul 2018.
- 2018 Ran Luo, Weiwei Xu, Huamin Wang, Kun Zhou, and Yin Yang. Physics-based quadratic deformation using elastic weighting. *IEEE Transactions on Visualization and Computer Graphics*, volume 24, number 12, pages 3188–3199, dec 2018.
- 2018 Xiaowei He, Huamin Wang, and Enhua Wu. Projective peridynamics for modeling versatile elastoplastic materials. *IEEE Transactions on Visualization and Computer Graphics*, volume 24, number 9, pages 2589–2599, sep 2018.
- 2018 Marco Fratarcangeli, Huamin Wang, and Yin Yang. Parallel iterative solvers for real-time elastic deformations. In *SIGGRAPH Asia 2018 Courses*, SA '18, New York, NY, USA, 2018. Association for Computing Machinery.
- 2017 Miaojun Yao, Zhili Chen, Weiwei Xu, and Huamin Wang. Modeling, evaluation and optimization of interlocking shell pieces. *Computer Graphics Forum (Pacific Graphics)*, volume 36, number 7, pages 1–13, oct 2017.
- 2017 Aihua Mao, Mingle Wang, Yong-Jin Liu, Huamin Wang, and Guiqing Li. SPH-based simulation of liquid wetting across textile materials. *Commun. Inf. Syst.*, volume 17, number 3, pages 147–169, 2017.
- 2016 Sheng Yang, Xiaowei He, Huamin Wang, Sheng Li, Guoping Wang, Enhua Wu, and Kun Zhou. Enriching SPH simulation by approximate capillary waves. In *Proceedings of the ACM SIGGRAPH/Eurographics Symposium on Computer Animation*, SCA '16, pages 29–36, Goslar, DEU, jul 2016. Eurographics Association.
- 2016 Huamin Wang and Yin Yang. Descent methods for elastic body simulation on the GPU. *ACM Trans. Graph. (SIGGRAPH Asia)*, volume 35, number 6. Association for Computing Machinery, dec 2016.
- 2016 Min Tang, Huamin Wang, Le Tang, Ruofeng Tong, and Dinesh Manocha. CAMA: Contact-aware matrix assembly with unified collision handling for GPU-based cloth simulation. *Computer Graphics Forum (Eurographics)*, volume 35, number 2, pages 511–521, may 2016.
- 2016 Rajaditya Mukherjee, Xiaofeng Wu, and Huamin Wang. Incremental deformation subspace reconstruction. *Computer Graphics Forum (Pacific Graphics)*, volume 35, number 7, pages 169–178, oct 2016.
- 2015 Miaojun Yao, Zhili Chen, Linjie Luo, Rui Wang, and Huamin Wang. Level-set-based partitioning and packing optimization of a printable model. *ACM Trans. Graph. (SIGGRAPH Asia)*, volume 34, number 6. Association for Computing Machinery, nov 2015.
- 2015 Xiaofeng Wu, Rajaditya Mukherjee, and Huamin Wang. A unified approach for subspace simulation of deformable bodies in multiple domains. *ACM Trans. Graph. (SIGGRAPH Asia)*, volume 34, number 6. Association for Computing Machinery, nov 2015.
- 2015 Huamin Wang. A Chebyshev semi-iterative approach for accelerating projective and position-based dynamics. *ACM Trans. Graph. (SIGGRAPH Asia)*, volume 34, number 6. Association for Computing Machinery, nov 2015.

- 2015 Xiaowei He, Huamin Wang, Fengjun Zhang, Hongan Wang, Guoping Wang, Kun Zhou, and Enhua Wu. Simulation of fluid mixing with interface control. In *Proceedings of the 14th ACM SIGGRAPH / Eurographics Symposium on Computer Animation*, SCA '15, page 129–135, New York, NY, USA, aug 2015. Association for Computing Machinery.
- 2015 Xiaowei He, Huamin Wang, Fengjun Zhang, Hongan Wang, Guoping Wang, and Kun Zhou. Robust simulation of sparsely sampled thin features in SPH-based free surface flows. *ACM Trans. Graph. (SIGGRAPH)*, volume 34, number 1. Association for Computing Machinery, dec 2015.
- 2015 Tamal K. Dey, Bo Fu, Huamin Wang, and Lei Wang. Automatic posing of a meshed human model using point clouds. *Computers & Graphics (Shape Modeling International)*, volume 46, pages 14–24, feb 2015. Shape Modeling International 2014.
- 2015 Zhili Chen, Byungmoon Kim, Daichi Ito, and Huamin Wang. Wetbrush: GPU-based 3D painting simulation at the bristle level. *ACM Trans. Graph. (SIGGRAPH Asia)*, volume 34, number 6. Association for Computing Machinery, nov 2015.
- 2014 Mao Ye, Huamin Wang, Nianchen Deng, Xubo Yang, and Ruigang Yang. Real-time human pose and shape estimation for virtual try-on using a single commodity depth camera. *IEEE transactions on visualization and computer graphics (IEEE VR)*, volume 20, number 4, page 550—559, April 2014.
- 2014 Huamin Wang. Defending continuous collision detection against errors. *ACM Trans. Graph. (SIGGRAPH)*, volume 33, number 4. Association for Computing Machinery, jul 2014.
- 2014 Zhili Chen, Miaojun Yao, Renguo Feng, and Huamin Wang. Physics-inspired adaptive fracture refinement. *ACM Trans. Graph. (SIGGRAPH)*, volume 33, number 4. Association for Computing Machinery, jul 2014.
- 2013 Zhili Chen, Renguo Feng, and Huamin Wang. Modeling friction and air effects between cloth and deformable bodies. *ACM Trans. Graph. (SIGGRAPH)*, volume 32, number 4. Association for Computing Machinery, jul 2013.
- 2013 Jiating Chen, Xiaoyin Ge, Li-Yi Wei, Bin Wang, Yusu Wang, Huamin Wang, Yun Fei, Kang-Lai Qian, Jun-Hai Yong, and Wenping Wang. Bilateral blue noise sampling. *ACM Trans. Graph. (SIGGRAPH Asia)*, volume 32, number 6. Association for Computing Machinery, nov 2013.
- 2013 Oleksiy Busaryev, Tamal K. Dey, and Huamin Wang. Adaptive fracture simulation of multi-layered thin plates. *ACM Trans. Graph. (SIGGRAPH)*, volume 32, number 4. Association for Computing Machinery, jul 2013.
- 2012 Yizhong Zhang, Huamin Wang, Shuai Wang, Yiyi Tong, and Kun Zhou. A deformable surface model for real-time water drop animation. *IEEE Transactions on Visualization and Computer Graphics*, volume 18, number 8, pages 1281–1289, aug 2012.
- 2012 Qing Zhang, Jing Tong, Huamin Wang, Zhigeng Pan, and Ruigang Yang. Simulation guided hair dynamics modeling from video. *Computer Graphics Forum (Pacific Graphics)*, volume 31, number 7, pages 2003–2010, sep 2012.
- 2012 Miguel A. Otaduy, Bernd Bickel, Derek Bradley, and Huamin Wang. Data-driven simulation methods in computer graphics: Cloth, tissue and faces. In *ACM SIGGRAPH 2012 Courses*, SIGGRAPH '12, New York, NY, USA, 2012. Association for Computing Machinery.

- 2012 Wei Hua, Rui Wang, Xusheng Zeng, Ying Tang, Huamin Wang, and Hujun Bao. Compressing repeated content within large-scale remote sensing images. *Vis. Comput. (Computer Graphics International)*, volume 28, number 6-8, pages 755–764. Springer-Verlag, jun 2012.
- 2012 Oleksiy Busaryev, Tamal K. Dey, Huamin Wang, and Zhong Ren. Animating bubble interactions in a liquid foam. *ACM Trans. Graph. (SIGGRAPH)*, volume 31, number 4. Association for Computing Machinery, jul 2012.
- 2011 Huamin Wang, James F. O'Brien, and Ravi Ramamoorthi. Data-driven elastic models for cloth: Modeling and measurement. *ACM Trans. Graph. (SIGGRAPH)*, volume 30, number 4. Association for Computing Machinery, jul 2011.
- 2010 Huamin Wang, James O'Brien, and Ravi Ramamoorthi. Multi-resolution isotropic strain limiting. *ACM Trans. Graph. (SIGGRAPH Asia)*, volume 29, number 6. Association for Computing Machinery, dec 2010.
- 2010 Huamin Wang, Florian Hecht, Ravi Ramamoorthi, and James F. O'Brien. Example-based wrinkle synthesis for clothing animation. *ACM Trans. Graph. (SIGGRAPH)*, volume 29, number 4. Association for Computing Machinery, jul 2010.
- 2009 Huamin Wang, Miao Liao, Qing Zhang, Ruigang Yang, and Greg Turk. Physically guided liquid surface modeling from videos. *ACM Trans. Graph. (SIGGRAPH)*, volume 28, number 3. Association for Computing Machinery, jul 2009.
- 2009 Nicolas Ray, Bruno Lévy, Huamin Wang, Greg Turk, and Bruno Vallet. Material space texturing. *Computer Graphics Forum*, volume 28, number 6, pages 1659–1669, sep 2009.
- 2009 Miao Liao, Qing Zhang, Huamin Wang, Ruigang Yang, and Minglun Gong. Modeling deformable objects from a single depth camera. In *2009 IEEE 12th International Conference on Computer Vision (ICCV Oral)*, pages 167–174, sep 2009.
- 2008 Huamin Wang, Yonatan Wexler, Eyal Ofek, and Hugues Hoppe. Factoring repeated content within and among images. *ACM Trans. Graph. (SIGGRAPH)*, volume 27, number 3, pages 1–10. Association for Computing Machinery, aug 2008.
- 2007 Huamin Wang, Mingxuan Sun, and Ruigang Yang. Space-time light field rendering. *IEEE Transactions on Visualization and Computer Graphics*, volume 13, number 4, pages 697–710, jul 2007.
- 2007 Huamin Wang, Gavin Miller, and Greg Turk. Solving general shallow wave equations on surfaces. In *Proceedings of the 2007 ACM SIGGRAPH/Eurographics Symposium on Computer Animation, SCA '07*, pages 229–238, Goslar, DEU, aug 2007. Eurographics Association.
- 2005 Huamin Wang and Ruigang Yang. Towards space-time light field rendering. In *Proceedings of the 2005 Symposium on Interactive 3D Graphics and Games, I3D '05*, pages 125–132, New York, NY, USA, apr 2005. Association for Computing Machinery.
- 2005 Huamin Wang, Peter J. Mucha, and Greg Turk. Water drops on surfaces. *ACM Trans. Graph. (SIGGRAPH)*, volume 24, number 3, pages 921–929. Association for Computing Machinery, jul 2005.

Books and Theses

- 2011 Ruigang Yang, Huamin Wang, and Cha Zhang. *Computational Photography: Methods and Applications*, chapter Chapter 18: Dynamic View Synthesis with an Array of Cameras. CRC Press, 2011.

- 2009 Huamin Wang. *Practical Water Animation using Physics and Image Based Methods*. PhD thesis, Georgia Institute of Technology, aug 2009.

[Patents \(not complete\)](#)

- 2024 Huamin Wang and Chen Liu. Systems and methods for arranging clothing patterns, 2024. US12175597B1.
- 2024 Huamin Wang and Chen Liu. Systems and methods for arranging and displaying clothing patterns, 2024. US12175620B1.
- 2024 Chen Liu, Huang Chen, Gaofeng He, and Huamin Wang. Methods and systems for personalized image generation, 2024. US20250106369A1.
- 2022 Chen Liu and Huamin Wang. Parallel computation methods and systems for multiplying symmetric matrices with vectors, 2022. US20250036716A1.
- 2022 Chen Liu and Huamin Wang. Machine learning-based methods, devices, and computer-readable storage media for measuring bending stiffness of fabrics, 2022. US20250045499A1.
- 2009 Hugues H. Hoppe, Yonatan Wexler, Eyal Ofek, and Huamin Wang. Factoring repeated content within and among images, 2009. EP2252971B1.
- 2008 Gavin S. P. Miller and Huamin Wang. System and method for simulating shallow water effects on arbitrary surfaces, 2008. US7921003B2.

Awards

- 2025 **Best Paper Honorable Mentions**, *ACM SIGGRAPH 2025*, Vancouver, Canada.
High-Performance CPU Cloth Simulation Using Domain-Decomposed Projective Dynamics
- 2018 **Best Paper Award**, *Pacific Graphics*, Hong Kong, China.
Parallel multigrid for nonlinear cloth simulation
- 2017 **Lowley Research Award**, *College of Engineering*, The Ohio State University, Columbus, OH.
- 2013–2018 **Research Gift Award**, *NVIDIA Corporation*, Santa Clara, CA.
- 2012–2018 **Research Gift Award**, *Adobe Inc*, San Jose, CA.
- 2006 **Graduate Fellowship**, *NVIDIA Corporation*, Santa Clara, CA.

Services

- 2024–Present **Associate Editor**.
IEEE Transactions on Visualization and Computer Graphics (TVCG), impact factor: 5.2
- 2020–Present **Associate Editor**.
The Visual Computer Journal (TVCJ), impact factor: 3.5
- 2026 **Technical Program Assistant Chair**.
ACM SIGGRAPH Asia
- 2023 **Technical Program Chair**.
ACM SIGGRAPH/Eurographics Symposium on Computer Animation (SCA)
- 2017 **Technical Program Chair**.
Computer Animation and Social Agents (CASA)
- 2014, 2015, **Technical Program Committee Member**.
- 2018–2025 ACM SIGGRAPH, ACM SIGGRAPH Asia
- 2010, **Technical Program Committee Member**.
- 2014–2017 Pacific Graphics
- 2012–2014, **Technical Program Committee Member**.
- 2018 ACM SIGGRAPH Symposium on Interactive 3D Graphics and Games (I3D)
- 2012, 2013 **Technical Program Committee Member**.
Computer Animation and Social Agents (CASA)
- 2012–2018 **Technical Program Committee Member**.
ACM SIGGRAPH/Eurographics Symposium on Computer Animation (SCA)
- 2013, 2017 **Technical Program Committee Member**.
Computer Aided Design and Computer Graphics (CAD & Graphics)
- 2005–Present **Reviewer/Panelist**.
National Science Foundation (NSF), ACM SIGGRAPH, ACM SIGGRAPH Asia, Eurographics, Computer Graphics International (CGI), Eurographics Symposium on Rendering (EGSR), ACM SIGGRAPH/Eurographics Symposium on Computer Animation (SCA), ACM SIGGRAPH Symposium on Interactive 3D Graphics and Games (I3D), Computer Graphics Forum (CGF), Computer Animation and Social Agents (CASA), ACM Transactions on Graphics (TOG), IEEE Transactions on Visualization and Computer Graphics (TVCG), Computer Aided Design and Computer Graphics (CAD & Graphics), The IEEE/CVF Conference on Computer Vision and Pattern Recognition (CVPR), International Conference on Computer Vision (ICCV)

Referees

Upon request.