

Zhen Chen

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RESEARCH INTERESTS My current research focuses on investigating the physical characteristics and geometric properties of thin shell models. I aim to develop efficient and precise models for simulating cloth behavior. Additionally, I have a keen interest in the realm of real-time gaming mesh processing, encompassing tasks such as remeshing, repairing, and simplification. Furthermore, I find the prospect of enhancing results through the integration of mesh processing, physical simulations, and deep neural networks to be particularly intriguing.

WORKING	Adobe	Seattle, Washington
	Research Scientist/Engineer	2024 – present

EDUCATION	The University of Texas at Austin	Austin, Texas
	Ph.D. in Computer Science	2018 – 2024
	Supervisor: Prof. Etienne Vouga	
	University of Science and Technology of China	Anhui, China
	Bachelor in Information & Computational Science ¹	2014 – 2018
	Mentors: Prof. Ligang Liu	

PUBLICATIONS [1] **Zhen Chen**, Danny M. Kaufman, Mélina Skouras, Etienne Vouga. **Complex Wrinkle Field Evolution**. *ACM Transactions on Graphics, 2023 (SIGGRAPH 2023)*.

[2] **Zhen Chen**, Zherong Pan, Kui Wu, Etienne Vouga, Xifeng Gao. **Robust Low-Poly Meshing for General 3D Models**. *ACM Transactions on Graphics, 2023 (SIGGRAPH 2023)*.

[3] Yan Zheng, Lemeng Wu, Xingchao Liu, **Zhen Chen**, Qiang Liu, Qixing Huang. **Neural Volumetric Mesh Generator**. *NeurIPS 2022 Workshop SBM Poster, 2022*.

[4] **Zhen Chen**, Hsiao-yu Chen, Danny M. Kaufman, Mélina Skouras, Etienne Vouga. **Fine Wrinkling on Coarsely-Meshed Thin Shells**. *ACM Transactions on Graphics, 2021*.

[5] **Zhen Chen**, Daniele Panozzo, Jeremie Dumas. **Half-Space Power Diagrams and Discrete Surface Offsets**. *IEEE Transaction on Visualization and Computer Graphics, 2019*.

¹In USTC, Department of Information & Computational Science belongs to Mathematics School

EXPERIENCE	Research Scientist/Engineer, Adobe	Seattle, US
	Manager: Danny M. Kaufman	May 2024 - Present
	Job description: Conduct research focused on developing robust and efficient algorithms in computer graphics, with emphasis on rigid and soft body dynamics, cloth simulation, real-time 2D shape simulation, time-dependent scene generation, and integrable frame field design.	
	Research & Development Intern, Tencent America	Bellevue, US
	Mentor: Xifeng Gao	Summer 2023
	Project description: Develop a robust and efficient algorithm for approximating the convex decomposition of diverse 3D meshes. The objective is to elevate collision detection performance in real-time gaming scenarios.	
	Research & Development Intern, Tencent America	Bellevue, US
	Mentor: Xifeng Gao	Summer 2022
	Project description: Propose a remeshing algorithm designed to accurately capture sharp features, ensuring both the absence of intersections and water-tight integrity. Implement this methodology on real-world mesh data to showcase its practical applicability.	
	Research Intern, Adobe	Remote in Austin, US
	Mentor: Danny M. Kaufman	Summer 2021
	Project description: Design a time integrator which achieves a trade-off between amplitude distortion (dissipation) and period distortion (dispersion). This is specifically designed for the incremental potential contact (IPC) model.	
	Student Intern, Geometric Computing Lab	NYU
	Host: Daniele Panozzo	Summer 2017
	Project description: Investigate an algorithm for the robust and efficient computation of offset surfaces for 3D meshes. This approach employs half-space power diagrams to achieve accurate results.	
TALKS	Complex Wrinkle Field Evolution	
	SIGGRAPH	2023
	Robust Low-Poly Meshing for General 3D Models	
	SIGGRAPH	2023
	Fine Wrinkling on Coarsely-Meshed Thin Shells	
	SIGGRAPH	2022
	Half-Space Power Diagrams and Discrete Surface Offsets (with Jeremie Dumas)	
	Symposium on Geometry Processing (SGP)	2020
REVIEWS	Eurographics	2024
	Computer Graphics Forum	2022
	SIGGRAPH Asia	2024
	SIGGRAPH	2023, 2024
	IEEE TVCG	2023
	NeurIPS	2024

TEACHING EXPERIENCE	Teaching assistant, Department of Computer Science	UT Austin
	CS 303E: Elements of Computers and Programming	Fall 2018
	Teaching assistant, Department of Mathematics	USTC
	Complex Analysis Fall	Fall 2017
	Mathematical Analysis	Spring 2017
HONORS AND AWARDS	Baosteel ScholarShip(Top 2%)	2017
	National Scholarship (Top 1% nationwide)	2016
	Outstanding Freshman Scholarship (Top 1%)	2014
LANGUAGE AND SKILLS	Programming: C/C++, Python, Matlab	
	Software: Houdini, Adobe Premiere	
	Language: Chinese(native), English(fluent)	