

Zhen Chen

CONTACT Department of Computer Science, The University of Texas at Austin 737-230-9435
INFORMATION 2317 Speedway, Stop D9500 zchen96@utexas.edu
Austin, Texas 78712, USA <https://zhenchen-jay.github.io/>

RESEARCH My current research focuses on investigating the physical characteristics and geomet-
INTERESTS ric 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.

EDUCATION **The University of Texas at Austin** Austin, Texas
Ph.D. in Computer Science 2018 – Present
Supervisor: Prof. Etienne Vouga
University of Science and Technology of China Anhui, China
Bachelor in Mathematics 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*.

RESEARCH **Research Intern, LightSpeed Studios** Bellevue, US
EXPERIENCE Mentor: Xifeng Gao Summer 2023

Project description: Develop a robust and efficient algorithm for approximating the convex decomposition of diverse 3D meshes. Our objective is to elevate collision detection performance in real-time gaming scenarios.

Research Intern, LightSpeed Studios 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 Assistant UT Austin

Supervisor: Etienne Vouga Fall 2022

Project description: Propose Neural Volumetric Mesh Generator (NVMG), a novel approach aimed at producing high-quality volumetric meshes for soft-body simulation.

Research Assistant UT Austin

Supervisor: Etienne Vouga Fall 2021 - Fall 2022

Project description: Propose a wrinkle representation to capture detailed wrinkles on a coarse underline mesh, and introduce the corresponding efficient algorithms for wrinkle editing, design, and interpolation.

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 2022, 2024

Computer Graphics Forum 2022

SIGGRAPH 2022, 2023

TEACHING	Teaching assistant, Department of Computer Science	UT Austin
EXPERIENCE	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	Baosteel ScholarShip(Top 2%)	2017
AWARDS	National Scholarship (Top 1% nationwide)	2016
	Outstanding Freshman Scholarship (Top 1%)	2014
LANGUAGE	Programming: C/C++, Python, Matlab	
AND SKILLS	Software: Houdini, Adobe Premiere	
	Language: Chinese(native), English(fluent)	