

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 robust real-time gaming mesh processing, covering
INTERESTS tasks like remeshing, repairing, and simplification. I'm also intrigued by the physical aspects of thin shell models and their geometric properties. Finally, exploring the potential of enhancing outcomes through the fusion of mesh processing, physical simulations, and deep neural networks also excites me.

EDUCATION **The University of Texas at Austin** Austin, Texas
Ph.D. in Computer Science 2018 – Present
GPA: 4.0/4.0
Supervisor: Prof. Etienne Vouga
University of Science and Technology of China Anhui, China
Bachelor in Mathematics 2014 – 2018
GPA: 4.06/4.3 (rank 1st among all students in the Mathematics Department)
Mentors: Prof. Ligang Liu

PUBLICATIONS [1] **Zhen Chen**, Danny M. Kaufman, Mélina Skouras, Etienne Vouga. **Complex Wrinkle 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 suitable for soft-body simulation.

Research Assistant

UT Austin

Supervisor: Etienne Vouga

Fall 2021 - Fall 2022

Project description: Develop a time integrator that finds a balance between minimizing amplitude distortion (dissipation) and period distortion (dispersion). This integrator is tailored for the incremental potential contact (IPC) model.

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.

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

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 |
| | Computer Graphics Forum | 2022 |
| | SIGGRAPH | 2022, 2023 |
| 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) | |