Zhouyuan Chen

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EDUCATION

New York University	Sep. 2023 – Current
Master of Science in Computer Science	*New York, United States*
Zhejiang University of Technology	Sep. 2019 – Jun. 2023
Bachelor of Engineering in Software Engineering	*Hangzhou, China*

PUBLICATIONS

Topological Offsets [project page]	2024
*Daniel Zint, **Zhouyuan Chen**, Yifei Zhu, Teseo Schneider, Denis Zorin, Daniele Panozzo*	*preprint on Arxiv*

RESEARCH PROJECTS

Shell Simulation   Jun. 2024 – Current

Research Assistant, Advised by Daniele Panozzo   *New York, United States*

- Designed a novel algorithm to simulate the thin shell and implemented it in the open-source library PolyFEM.

Automatic Simulator For Annotation Images   Jun. 2024 – Current

Research Assistant, Advised by Daniele Panozzo and Daniel Zint   *New York, United States*

- I designed and implemented a medical simulation pipeline to make it possible for medical staff to easily simulate the patients' bodies with their CT images.
- **Publication/Software: 3D Slicer Extension: Image Annotation Mesher**

Embedded Remeshing   Jun. 2023 – May 2024

Research Assistant, Advised by Daniele Panozzo and Daniel Zint   *New York, United States*

- Implemented the Embedded Remeshing algorithm in 2D and 3D, and modified the algorithm's idea. Participated into developing the open source software wildmeshing-toolkit.
- **Publication: Topological Offsets**

Teeth Collision Computation and Model Generation   Aug. 2021 – June 2022

Research Assistant, Advised by Jiazhou Chen   *Hangzhou, China*

- **Teeth Model Collision Visualization and Acceleration [demo 1]:** Implemented the existing broad phase collision detection algorithms(SaP, BVH, Kd-Tree) to accelerate the collision computation, to make the software faster(from **3 minutes** to less than **200ms** per computation). Designed and implemented an algorithm to visualize the minimum embedding distance between two teeth.
- **Teeth Undercut Model Generation [demo 2]:** Designed and implemented an algorithm to reconstruct the undercut model of human teeth, which can automatically generate the mesh to help dentists avoid manually making the undercut model.
- **Software: Hansfive Virtual Teeth**

SOFTWARE AND CODE

3D Slicer Extension: Image Annotation Mesher

Open-source Medical Software

Hansfive Virtual Teeth [demo 1][demo 2]

Company Medical Software

TEACHING EXPERIENCE

Geometric Modeling(CSCI-GA.3033-018)	Spring 2024
Teaching Assistant at the New York University	*New York, United States*
Intro to Computer Science(CSCI-UA 101-10)	Spring 2024
Grader at the New York University	*New York, United States*

SKILLS AND INTERESTS

Programming Languages: C/C++, Python, Java, SQL

Libraries and Tools : Eigen, Libigl, CMake

Languages: English (fluent), Chinese (native)

Research Interests: Computer Graphics, Numerical Simulation, Geometry Processing