

Zhouyuan Chen

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EDUCATION

New York University

Master of Science in Computer Science

Sep. 2023 – Current

New York, United States

Zhejiang University of Technology

Bachelor of Engineering in Software Engineering

Sep. 2019 – Jun. 2023

Hangzhou, China

PUBLICATIONS

Topological Offsets [\[project page\]](#)

Daniel Zint, **Zhouyuan Chen**, Yifei Zhu, Teseo Schneider, Denis Zorin, Daniele Panozzo

2024

preprint on Arxiv

RESEARCH PROJECTS

Shell Simulation

Research Assistant, Advised by [Daniele Panozzo](#)

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

Jun. 2024 – Current

New York, United States

Automatic Simulator For Annotation Images

Research Assistant, Advised by [Daniele Panozzo](#) and [Daniel Zint](#)

- 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**

Jun. 2024 – Current

New York, United States

Embedded Remeshing

Research Assistant, Advised by [Daniele Panozzo](#) and [Daniel Zint](#)

- 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**

Jun. 2023 – May 2024

New York, United States

Teeth Collision Computation and Model Generation

Research Assistant, Advised by [Jiazhou Chen](#)

- 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**

Aug. 2021 – June 2022

Hangzhou, China

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)

Teaching Assistant at the New York University

Spring 2024

New York, United States

Intro to Computer Science(CSCI-UA 101-10)

Grader at the New York University

Spring 2024

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, Geometry Processing, Numerical Simulation