Zhouyuan Chen

Email: zc2952@nyu.edu **Personal Website**: https://zhouyuan-chen.github.io **GitHub**: https://github.com/Zhouyuan-Chen

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 2024

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

RESEARCH PROJECTS

Geometric Computing Lab at New York University Jun. 2023 – Current

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

- **Finite Element Analysis with Prisms and Tetrahedra** (Jun. 2024 - Current)
  * In progress. I am working on implementing the meshing part to generate a mesh with as little as possible tetrahedron shell. And later I will try to build a linear system to simulate the mesh with hybrid elements.
- **Automatic Simulator for Annotation Images** (Mar. 2024 - Current)
  * Designed and implemented the pipeline for meshing and simulation with the wildmeshing toolkit, PolyFEM, and FEBio.
  * Integrated the meshing pipeline as an open-source medical extension software in the 3D Slicer, called 3D Slicer Image Annotation Mesher [code and manual will be released soon]
- **Topological Offsets** (Jun. 2023 - Jul. 2024)
  * Implemented the Topological Offsets algorithm in 2D and 3D, and modified the algorithm's idea. Participated in developing the open-source software wildmeshing toolkit.

Digital Media Technology Lab at Zhejiang University of Technology Aug. 2021 – Jun. 2022

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

- **Teeth Undercut Model Generation** (Feb. 2022 - Jun. 2022)
  * 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.
- **Collision Visualization and Acceleration** (Aug. 2021 - Jan. 2022)
  * Designed and implemented an algorithm to visualize the minimum embedding distance between teeth.
  * Implemented a C++ broad phase collision detection acceleration algorithms library.

TEACHING EXPERIENCE

Geometric Modeling(CSCI-GA.3033-018) Spring 2024

Teaching Assistant at New York University *New York, United States*

Intro to Computer Science(CSCI-UA 101-10) Spring 2024

Grader at 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, Geometry Processing, Numerical Simulation