

YunFan Zhou

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EDUCATION

New York University, New York, NY

- Ph.D. Candidate in Computer Science, Geometric Computing Lab 2020 Sep –

University of Texas at Austin, Austin, TX

gpa 3.938 / 4.0

- Bachelor of Science (B.S.) in Computer Science, 2017 Aug – 2020 May
- Bachelor of Science (B.S.) in Mathematics

Wesleyan College, Macon, GA

gpa 4.0/4.0

- Bachelor of Art (B.A.) in Applied Mathematics 2015 Aug – 2017 May

RESEARCH PROJECTS

- **Adaptive Meshing of Displacement Surfaces**, *in progress* 2022 Sep– now

We generate high-quality self-intersection free piecewise-linear meshes that approximate the displacement map with an error under a user-specified bond. The goal is to provide automated mesh generation algorithms for modeling software that supports robust downstream applications, such as physical-based simulations, boolean operations, and skinning/rigging.

- **GPU Mesh Decimation for Interactive Applications**, Adobe 2022 May– 2022Aug

GPU (CUDA) implementation for mesh decimation on the fly. Achieved 60x speed-ups compared to serial CPU implementation and 15x parallel CPU implementation.

- **Wildmeshing Toolkit: Declarative Specification for Unstructured Mesh Editing Algorithms**, *SIGGRAPH Asia 2023* 2021 Nov– 2022 May

An open-source easy-to-parallel geometry modeling SDK ([click to wmtk-toolkit github repo](#)) for mesh generating/geometric processing algorithms. It abstracts data structure and low-level mesh-editing details and guarantees basic mesh quality requirements. 5 different basic geometry processing algorithms are also implemented in the code-base to demonstrate easy customization and parallelism.

- **Optimizing Contact-Based Assemblies**, *SIGGRAPH Asia 2022* 2020 Sep– 2021 Sep

Working with Davi Tozoni, Dr. Denis Zorin on the project of supporting shape optimization for assemblies that are held together by contact and friction. Separately, explored the influence of meshing/remeshing, given different refinement level, on irregular stress singularities in linear elasticity simulations.

- **Predict Light Directions in Images Using ResNet50**, The Technical University of Munich (TUM) & Munich University of Applied Sciences (HM), Germany (in remote) 2020 May - Aug

Using a data set of 160000 synthetic and real images to develop and train a modified deep learning ResNet to detect the azimuth and elevation of the light source in the image and to predict lighting information for a given image.

- **Real Time Simulation of Veronoid-Based Fracturing and Shattering**, UT Austin 2020 Mar - May

Implemented a real time fracturing and shattering scheme using Veronoid decomposition based on a set of mass-spring system for general objects. Compute each object's after-collision decomposition on-the-fly using two approaches: Force Absorption and Lagrangian Multiplier.

An interesting example can be seen at [ring of balls](#).

- **Stochastic Variance Reducing Method Study and Implementation**, Computational Science Engineering and Mathematics (CSEM), UT Austin 2018 May –Aug

Worked with Dr. George Biros at Institute of Computational Science and Engineering department of UT, Austin on comparing different Stochastic Variance Reducing methods, namely SVRG, SVRG2 and Batch SVRG2. Implemented the three methods listed and compared their behaviors towards unconstrained optimization on equations up to 100 dimension.

- **COMAP International Math Modeling Contest**, Honorable Mention Award 2017 Jan

Worked in a group of three on finding bottlenecks of airport security check for higher efficiency and constructed a 15-page-paper in four days.

WORKING EXPERIENCE

- **Research Engineer Intern**, Adobe 2022 May –Aug

See research project [GPU Mesh Decimation for Interactive Applications](#)

- **Technology Summer Intern**, Schlumberger 2019 June –Aug

Data visualization engineer. Worked on visualizing oil, gas, and seismic data using Unity game engine. Enable users to dynamically visualize extensive data sets that are available through the Data Ecosystem stored on the Schlumberger cloud.

TEACHING EXPERIENCE

- **TA for Geometry Processing**, NYU 2022 Spring

Responsibility includes leading recitations for the class of 60 students, holding office hours 3 times a week, and grading coding projects.

- **Grader for Introduction to Stochastic Processes**, University of Texas, Austin 2019 Spring, Fall
Grader for 2 classes of 100 students.
- **TA for Elements of Software Engineering**, University of Texas, Austin 2019 Spring
Undergraduate TA for a class of 78 students. Responsibilities include: grading homework and exams, holding office hours, and offering private tutoring on appointment.

AWARDS & SCHOLARSHIPS

- **Rising Stars, WiGRAPH** 2023 – 2024
A two-year program of mentorship and workshops that recognizes outstanding women researchers and students in the graphics community and help them navigate the job market within computer graphics research
- **MacCracken Fellow, NYU** 2020 Fall – 2025 Spring
Researching, attending graduate education and teaching at NYU Graduate School of Art and Sciences
- **College Scholar for College of Natural Science**, University of Texas, Austin 2019 Spring
For juniors/seniors attaining a GPA of at least 3.5.
- **Moncrief Research Summer Fellowship**, University of Texas, Austin 2018 Summer
- **Freshman Research Initiative Summer Fellowship**, University of Texas, Austin 2018 Summer
- **President Scholar**, Wesleyan College 2015 Fall – 2017 Spring
4 times winner for demonstrating academic excellency
- **Trustee Scholarship**, Wesleyan College 2015 Fall – 2017 Spring
- **Margaret Frances Edenfield Math Scholarship**, 2017 2017 – 2018
For rising Math major seniors or juniors who demonstrate excellence in Mathematics.
- **Beverly and Gilbert Held Endowed Scholarship**, 2016 2016 – 2017
For students outstanding in Mathematics and Computer Science.

ACTIVITIES

- **High School Girls CS Visit Day**, NYU 2020 Fall
Volunteered to facilitate online CS visit days for high school girls during the pandemic.
- **Women in CS Dell-Nell Mentor**, University of Texas, Austin 2018 Fall
Serving as a mentor for freshmen of Women in Computer Science at UT, Austin, working with expected female undergraduate students to share experience in CS and help them transition to college life.
- **Math Club Vice President**, Wesleyan College 2016 Fall – 2017 Spring
 - **Code With Us Founder & Main Facilitator** 2016 Fall
Launched Code With Us for a semester of the after-class course in Python language for a class of 10 at Wesleyan College. Organized a facilitator board of 5, and became the main facilitator.
 - **Robotics for Underrepresented Groups & Main Facilitator** 2016 Fall
Led the after-school robotic programming workshops for a K-5 school that has a majority of Latinx and black students.
- **Girl Who Code student assistant**, Wesleyan College 2016 Fall – 2017 Spring

[CV compiled on 2023-06-02]