YunFan Zhou

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EDUCATION

New York University, New York, NY

- PhD. 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

- **Parametric Refinement of Topology-Consistent B-Rep Meshes** , — 2026 May– Now
  Developing a parametric refinement method that converges towards a well-defined limit surface, targeting high-order meshing, simulation correspondence, and local refinement without recreating a new mesh.
- **Topology First B-Rep Meshing**, — 2024 May– 2026 May
  Developed topology consistent triangle mesh generation pipeline for CAD models. The pipeline is robust and allows a single user-defined tolerance to control the deviation of the generated mesh from the underlying parametric surfaces. The result meshes preserve the topology intent exactly as in the input B-rep files and have high qualities.
- **Garment Geometry Capture, Generation, and Animation**, CLO Virtual Fashion 2025 May– 2025 August
  Developed tools for digitally capturing visually faithful fabric tearing and fraying (provisional patent pending).
- **Adaptive Meshing of Displacement Surfaces**, — 2022 Sep– 2024 April
  Developed mesh generation algorithm using texture maps and displacement maps. The generated meshes are high quality, intersection free, and can be used directly for simulations, boolean modeling operations, and rigging.
- **GPU Mesh Decimation for Interactive Applications**, Adobe — 2022 May– 2022Aug
  Explored mesh simplification using GPU for on the fly LOD implementations.
- **Wildmeshing Toolkit: Declarative Specification for Unstructured Mesh Editing Algorithms**, ***SIGGRAPH Asia 2023*** — 2021 Nov– 2022 May
  Jointly developed an open-source easy-to-parallel geometry modeling SDK (wmtk-toolkit github repo) for fast and easy customization of geometric processing algorithms implementations. It removes low-level mesh-maintenance details and guarantees meshing algorithm objectives and invariants while parallelizes operations on meshes safely.
- **Optimizing Contact-Based Assemblies**, ***SIGGRAPH Asia 2022*** — 2020 Sep– 2021 Sep
  Developed a shape-derivative-based framework for optimizing assembly geometries with contact and friction, leveraging differentiable simulation for automated shape parameter updates.
- **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.

WORKING EXPERIENCE

- **R&D Summer Intern**, CLO Virtual Fashion — 2025 May –Aug
  See research project *Garment Visual Detail Editing and Simulation*
- **Research Engineer Intern**, Adobe — 2022 May –Aug
  See research project *GPU Mesh Decimation for Interactive Applications*

AWARDS & SCHOLARSHIPS

- **Rising Stars**, WiGRAPH — 2023 – 2024
  A two-year program of mentorship and workshops that recognizes outstanding women researchers in the graphics community.
- **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