

# Litian Zhang(张力天)

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I am an undergraduate student in Tsinghua University, majoring in Mechanics. Deeply interested in physics-based simulation in computer graphics, I am actively looking for the opportunity of research internship for 2023 Autumn and Winter.

## EDUCATION

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**Tsinghua University, Xingjian College**

September 2020 - present

- Bachelor of Mechanics and Civil Engineering System
- Academic Performance: 3.6/4.0

## RESEARCH EXPERIENCE

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**Texture synthesis for Fluid in 3D**

July 2023 - present

- Mitacs Globalink Internship, advisor: **Prof. Eric Paquette**
- Using diffusion model to generate textures on liquids surfaces that change in shape through time
- Design Neural Networks to generate seamless textures in u-v coordinate to improve texture fidelity

## PROJECTS

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**Multigrid Poisson Solver**

March 2023

*Major Project as a part of course Numerical Methods for Partial Differential Equations*

- Implement multigrid method for poisson equation with Matlab

*Project Repo*

**Structure Mechanics Solver**

June 2023

*Final Project as a part of course Fundamentals of Computational Mechanics*

- Implement a 2D solver for structure mechanics using stiffness matrix method with Matlab

*Project Repo*

## SKILLS

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**Programming**

C, C++, Python, Matlab, Shell, Git, OpenGL, Latex

**Language**

Chinese (native), English (with GRE 329 + 3.5 and TOEFL 109)

## SELECTED COURSES

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**Tensor: Structures, Analysis and Applications**

2021 Autumn

*Graduate Level Course*

- Focused on tensor properties and its application in Continuum Mechanics

**Numerical Methods for Partial Differential Equations**

2023 Spring

*Graduate Level Course*

- Covering major numeric framework for elliptic, hyperbolic, parabolic equations(FDM, FVM, FEM)