

# Tianju Xue (薛添驹)

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## Education

- 2017– Present **Ph.D. Student**, Princeton University, (Expected graduation date: Jan, 2022).  
Research area: Computational mechanics  
Advisors: Prof. *Sigrid Adriaenssens* and Prof. *Ryan P. Adams*
- 2013–2017 **B.Sc.**, Shanghai Jiao Tong University.  
Mechanical Engineering (UM-SJTU Joint Institute), GPA - 3.80/4.0 (ranking 1/53)
- 2016 **Exchange Student**, The University of Hong Kong.  
Mechanical Engineering

## Experience

### Working

- 2020 **Quantitative Research Intern**, Sixie Capital, Shanghai.  
Statistical analysis of market data: Seeking investment alpha
- 2019 **Research Intern**, Facebook, Inc., Redmond.  
AR/VR at Facebook Reality Labs: Deep learning accelerated 3D printing material design
- 2017 **Engineering Intern**, Apple, Inc., Shanghai.  
Apple accessories team: Keyboard design and manufacturing

### Teaching

- 2017–2021 **Graduate Teaching Assistant**, Princeton University.  
SML201 Introduction to Data Science  
COS424 Fundamentals of Machine Learning  
CEE205 Mechanics of Solids
- 2013–2017 **Undergraduate Teaching Assistant**, Shanghai Jiao Tong University.  
VM382 Mechanical Behaviour of Materials  
VP140 Physics

## Peer-reviewed Papers

- 2021 **T.Xue**, S.Adriaenssens, S.Mao, Mapped phase field method for brittle fracture, *Computer Methods in Applied Mechanics and Engineering*, 2021.
- 2021 **T.Xue**, W.C.Sun, S.Adriaenssens, Y.Wei, C.Liu, A new finite element level set reinitialization method based on the shifted boundary method, *Journal of Computational Physics*, 2021.
- 2020 A.Beatson, J.T.Ash, G.Roeder, **T.Xue**, R.P.Adams, Learning Composable Energy Surrogates for PDE Order Reduction, *NeurIPS*, 2020.

- 2020 **T.Xue**, T.J.Wallin, Y.Menguc, S.Adriaenssens, M.Chiamonte Machine learning generative models for automatic design of multi-material 3D printed composite solids, *Extreme Mechanics Letters*, 2020.
- 2020 **T.Xue**, A.Beatson, S.Adriaenssens, R.P.Adams, Amortized Finite Element Analysis for Fast PDE-Constrained Optimization, *ICML*, 2020.
- 2020 **T.Xue**, A.Beatson, M.Chiamonte, G.Roeder, J.T.Ash, Y.Menguc, S.Adriaenssens, R.P.Adams, S.Mao, A data-driven computational scheme for the nonlinear mechanical properties of cellular mechanical metamaterials under large deformation, *Soft Matter*, 2020.
- 2019 Y.Wan, **T.Xue**, Y.Shen, The successive node snapping scheme for an evolving branched curve in 2D and 3D, *Computer-Aided Design*, 2019.
- 2019 Y.Wan, **T.Xue**, Y.Shen, The successive node snapping scheme: A method to obtain conforming meshes for an evolving curve in 2D and 3D, *Finite Elements in Analysis and Design*, 2019.
- 2017 M.Ma, **T.Xue**, S.Chen, Y.Guo, Y.Chen, H.Liu, Features of structural relaxation in diblock copolymers, *Polymer Testing*, 2017.

## Presentations

- 2021 Winner of student/post-doctoral fellow competition at USACM workshop on “New Trends and Open Challenges in Computational Mechanics: from Nano to Macroscale”

## Reviewing

*Extreme Mechanics Letters*

## Selected Honors

- |      |                                   |                                                            |
|------|-----------------------------------|------------------------------------------------------------|
| 2017 | <b>Gordon Y.S. Wu Fellowships</b> | <i>A highly prestigious award at Princeton University</i>  |
| 2016 | <b>The Merit Student Model</b>    | <i>Person of the year at Shanghai Jiao Tong University</i> |
| 2015 | <b>National Scholarship</b>       | <i>Top scholarship for undergraduate students in China</i> |

## Skills

**Tools** Matlab, L<sup>A</sup>T<sub>E</sub>X

**Programming Languages** Python, C/C++

## Languages

**Mandarin**

*Native*

**English**

*TOEFL: 111/120*