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PhD Fellow in Architecture

Polyhedral Structures Laboratory, University of Pennsylvania

Education

Doctor of Philosophy - PhD, Architecture, [University of Pennsylvania Philadelphia, PA, US](#) Jul 2023 - Present

Master of Science in Design - MSD, Architecture, [University of Pennsylvania Philadelphia, PA, US](#) Aug 2021 - Aug 2022

Bachelor of Architecture - BArch, Architecture, [Tsinghua University Beijing, China](#) Aug 2016 - Jun 2021

Bachelor of Arts - BA, Sociology, [Tsinghua University Beijing, China](#) Aug 2016 - Jun 2020

Experience

Polyhedral Structures Laboratory, [University of Pennsylvania Philadelphia, PA, US](#)

- PhD Fellow, Full-Time

Jul 2023 - Present

- Research Assistant, Full-Time

Sep 2022 - Jun 2023

People's Architecture Office *Beijing, China*

- Research Intern, Full-Time

Jul 2019 - Sep 2019

Journal Papers (Peer-reviewed)

[J2] **Designing 3D-Printed Concrete Structures with Scaled Fabrication Models**

Yefan Zhi, Teng Teng, Masoud Akbarzadeh

Architectural Intelligence 2024

[J1] **Research on the Villagers' Behavior Characteristics in Rural Area: Analysis Using Spatio-Temporal Data from Wi-Fi and Surveillance Video**

Yefan Zhi, Ziyu Huang, Weixin Huang

Urban, Environment, Design (UED) 2023 *in Chinese, on Cover*

Conference Papers (Peer-reviewed)

[C3] **Diamanti: 3D-Printed, Post-tensioned Concrete Canopy**

Masoud Akbarzadeh, Hua Chai, Yefan Zhi, Maximilian E. Ororbia, Teng Teng, Mathias Bernhard, Damon Bolhassani, Fahimeh Yavartanoo, Javier Tapia, Karolina Pajak, Mylene Bernard, Leon Trouset, Paul Kassabian, Blaise Waligun
FABRICATE 2024 *Copenhagen, Denmark*

[C2] **Local Optimization of Self-Supporting Shell Structures in 3D Printing: a Skeleton Method**

Yefan Zhi, Hua Chai, Teng Teng, Masoud Akbarzadeh

International Association for Shell and Spatial Structures (IASS) Annual Symposia 2023 *Melbourne, Australia*

[C1] **Continuous Multi-Filament 3D Printing for Tension-Compression Structure Components**

Teng Teng, Yefan Zhi, Kun-Hao Yu, Shu Yang, Masoud Akbarzadeh

International Association for Shell and Spatial Structures (IASS) Annual Symposia 2023 *Melbourne, Australia*

Preprints

[P1] **Single-Nozzle Multi-Filament System with Active Mixing for High-Fidelity Multimaterial Additive Manufacturing**

Teng Teng, Yefan Zhi, Masoud Akbarzadeh

Theses

A Wi-Fi and Video Data-Based Study on Spatial-Temporal Characteristics of Rural Space Behavior

Yefan Zhi, Advised by Weixin Huang

Bachelor of Architecture thesis 2021, Tsinghua University *Beijing, China, in Chinese*

Forming Norms in a Small Community: a Sociological Study of Birdwatching

Yefan Zhi, Advised by Yue Du

Bachelor of Arts in Sociology thesis 2020, Tsinghua University *Beijing, China, in Chinese*

Software

Ovenbird, A cross-scale shell printing slicer and optimizer

Sep 2022 - Present

Yefan Zhi, Hua Chai, Teng Teng, Masoud Akbarzadeh

BibGallery, A light, simple literature management library on Python

Dec 2022 - Present

Yefan Zhi

Exhibitions

Advanced Research Projects Agency–Energy (ARPA-E) Energy Innovation Summit 2023 *Washington, DC, US*

Apr 2023

- Technology showcase, Part of University of Pennsylvania

Association for Computer Aided Design in Architecture (ACADIA) Conference 2022 *Philadelphia, PA, US*

Oct 2022

- Faculty research exhibition, Part of Polyhedral Structures Laboratory

- Student work exhibition, Part of Master of Science in Design program

Weitzman School Year End Show 2022, *University of Pennsylvania Philadelphia, PA, US*

May 2022

- Student work exhibition, Part of Master of Science in Design program