



Zihan Liu

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Major / Civil Engineering

English / TOEFL: 94

CET6 : 500

2015 – 2019

China University of Geosciences

Bachelor



Ranked 355th in U.S. News Global Universities Rankings

GPA: **3.86 / 5.0 (= 88.6/100)**

Rank: Top 5%

2019 – Now

Shanghai Jiao Tong University

Master of Philosophy



Civil & Structural ranked 29th in QS World University Rankings

GPA: **3.67 / 4.0**

Expected Graduation Date: Jan. 2022

Personal Website: <https://zihanliu.netlify.app>

Research Experience

Publications

1. **Zihan Liu**, Zhennan Zhang, Ghassemi Ahmad. “Bedding plane-embedded augmented virtual internal bonds for fracture propagation simulation in shale”. *Theoretical and Applied Mechanics Letters*, 2021, No.100253. (Online) <https://doi.org/10.1016/j.taml.2021.100253> (SCI Indexed)
2. **Zihan Liu**, Nan Jiang, Chuanbo Zhou, Ling Ji, Xuedong Luo. “Damage Effect of Terrorist Attack Explosion-induced Shock Wave in a Double-deck Island Platform Metro Station”. *Periodica Polytechnica Civil Engineering*, 2021, 65(1): 215-228. <https://doi.org/10.3311/PPci.16929> (SCI Indexed)
3. **Zihan Liu**, Nan Jiang, Jinshan Sun, Yuqing Xia, Guopeng Lyu. “Influence of tunnel blasting construction on adjacent highway tunnel: A case study in Wuhan, China”. *International Journal of Protective Structures*, 2020, 11(3): 283-303. <https://doi.org/10.1177/2041419619888936> (SCI Indexed)
4. Jiang, N., Zhu, B., Luo, X., Zhou, C., Sun, J., Wu, T., Xia, Y., **Liu, Z.**, Tang, Q. Experimental system for simulating the influence of tunnel blasting and excavation on existing lining [P]. CN209764622U, 2019-12-10.

Participation in academic conferences

1. Nov. 13th-15th, 2020 The 4th National Symposium on Geotechnical Constitutive Theory, I Gave an online talk.
2. Jun. 21th-23th, 2021 The Deep Underground Energy Hard Rock Forum 2021
3. Aug. 1st-4th, 2021 The Chinese Mechanics Congress, I'll show my poster.

Research projects involved

1. Team leader, National College Student Innovation Training Program, *Numerical Simulation Research on Destruction Characteristics of Terrorist Attacks in Subway Stations* (Grant No. 201710491045)
2. Team leader, National College Student Innovation Training Program, *Dynamic response characteristics of existing tunnels under adjacent blasting* (Grant No. 20181049173)
3. Participant, National Natural Science Foundation of China (Grant No. 11772190)
4. Participant, National Science and Technology Major Project, *an Experimental Research on Controlling Factors and Diversion of Target Oriented Acid Fracturing* (Grant No. 2016ZX05014-005-012)

Techniques and Skills

1. **Fortran & C Programming Language** Code for multistep iterative numerical simulation and 2D/3D FEM problems
2. **MATLAB/Mathematica** A good master of mathematical software, especially in data visualization process and multiple means of numerical simulation. Certain skills in data analysis as well
3. **ANSYS/ Ls-Dyna** Well qualified, be capable of modeling and solving static and dynamic problems in civil engineering
4. **Mathematical Modeling** Have abilities of abstraction and innovation. Led a contest team during 2017 - 2018, which was awarded prizes in several national class and world class competitions
5. **AutoCAD** Plot construction sketches for concrete and steel structures
6. **SPSS** Multivariate nonlinear regression analysis for mathematical modeling
7. **Origin, Tecplot, Photoshop, Office** and other common software

● Previous Honors

Nov. 2017	First prize of Hubei Province in the National College Students Mathematical Contest in Modeling
Mar. 2018	Honorable Mention in American Mathematical Contest in Modeling (MCM)
Jul. 2017	Second Prize of Physics Competition of China University of Geosciences
Nov. 2017	Third Prize of the 19 th Science and Technology Paper Conference of China University of Geosciences
Jun. 2019	<i>Outstanding Graduate</i> of China University of Geosciences
Jun. 2016	<i>Excellent Intern</i> in Qinhuangdao Practice Base of China University of Geosciences
Oct. 2016	The National Encouragement Scholarship & University-level outstanding students
Oct. 2017	The Dean Scholarship of China University of Geosciences & University-level outstanding student cadres
Oct. 2018	The Academician Scholarship of China University of Geosciences & University-level outstanding students

● Certificates

Second-level Certificate for National Computer (C language programming) in China

Third-level Certificate for National Computer (Network technology) in China

Fourth-level Certificate for National Computer (Network engineer) in China