

Bowen Yang

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Education

Doctor of Philosophy in Civil Engineering

University of Nebraska–Lincoln, GPA: 3.98/4.00

Advisor: Joshua Steelman, PhD, PE

Lincoln, NE

May 2023

Master of Science in Civil Engineering

Pennsylvania State University Park, GPA: 3.54/4.00

Advisor: Jeffrey A. Laman, PhD, PE

State College, PA

May 2018

Work Experience

Research Assistant

University of Nebraska-Lincoln

Lincoln, NE

Aug 2021-Present

- Determine strain gauge installation locations and install them with professors for prestressed concrete and steel bridges
- Analyze 60 load tests to determine girder distribution factors and neutral axis for girders
- Calculate the dynamic allowance amplification based on the load tests
- Evaluate the reliability indices for steel and prestressed concrete girder bridges subjected to truck platoons in-service limit states

Research Assistant

University of Nebraska-Lincoln

Lincoln, NE

Aug 2019-Dec 2020

- Conducted reliability analysis for platoons on girder bridges based on Monte Carlo Simulation and proposed platoon live load factors for bridge load rating
- Developed headway guidance to illustrate potential safe operational strategies with varying truck weights and platoon live load effect uncertainties
- Completed the final report for the truck platoon effects on girder bridges in strength limit state

Changsha Planning & Design Institute Co., Ltd

Full-time Bridge Engineer

Changsha, China

Sep 2018-May 2019

- Created the steel bridge model and evaluated the effect of overloads by using CSiBridge
- Reviewed building construction drawing under the guidance of professional bridge engineers
- Worked with professional bridge engineers and local contractors to guide construction workers on bridge field sites

Pennsylvania State University Park

Master Thesis Research

State College, PA

Oct 2015-May 2017

- Analyzed and calculated girder distribution factors for curved bridges subjected to four permit vehicles from the PennDOT database based on CSiBridge
- Developed MATLAB codes to calculate the effects of maximum loads on one- to three-span straight bridges subject to considered permit vehicles

Volunteer

Graduate Volunteer

University of Nebraska-Lincoln

Lincoln, NE

June 2021

- Led the pre-prepared session “Applying to Grad School and Funding” locally offered by Office of Graduate Studies for undergraduate students from other universities
- Answered questions about applying to graduate school from undergraduate students

Teaching Experience

Student Research Mentor for National Science Foundation Program

University of Nebraska-Lincoln

Lincoln, NE

May 2021-Aug 2021

- Developed excels to determine non-composite and composite resistances for steel bridges
- Simulated steel bridge interface shear forces based on available statistical parameters using MATLAB
- Created MATLAB codes for helping the undergraduate student to conduct the reliability analysis of rural steel bridges subjected to emergency vehicles
- Assisted undergraduate students in developing their summer research posters

Teaching Assistant for Steel Design I

University of Nebraska-Lincoln

Lincoln, NE

Jan 2021-May 2021

- Prepared the project solutions in Mathcad with narrative descriptions of the underlying engineering thought processes and graded assignments for 19 students
- Served as a supporting instructor and answered student questions on an as-needed basis during regularly scheduled office hours (2 hours/week) or through email

Publications

- **Yang, B.**, Steelman, J. S., Puckett, J. A., & Linzell, D. G. (2021). Safe Platooning Headways on Girder Bridges. *Transportation Research Record: Journal of Transportation Research Board*
- Steelman, J. S., Puckett, J. A., Linzell, D. G., & **Yang, B.** (2021). Truck Platooning Effects on Girder Bridges (No. SPR-1 (20) M030)
- Jiang, C., **Yang, B.**, Dejian, L. (2014). "Seismic analysis and its restraint system feasibility of single pylon cable-stayed bridge". *Journal of Railway Science & Engineering*

Presentations

- Steelman, J. S., Puckett, J. A., & Linzell, D. G., & **Yang, B.** (2021). Safe Platooning Headways on Girder Bridges. International Bridge Conference

Certificates

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| • International Teaching Assistants, University of Nebraska-Lincoln | Jan 2021 |
| • Steel Bridge Education Lectures: From Concept to Delivery, University of Wyoming | Sep 2020 |
| • Fundamentals of Engineering (FE) exam, Michigan | July 2016 |

Honors

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| • Robert A. and Becky Reisdorff Student Support Fellowship | Aug 2021 |
| • Milton E. Mohr Fellowship | May 2021 |
| • Member of Chi Epsilon Chapter at UNL | Oct 2020 |
| • Robert A. and Becky Reisdorff Student Support Fellowship | Aug 2020 |

Skills

- Computer software: SAP2000, CSiBridge, AutoCAD, Mathcad, Microsoft Word, Excel
- Coding skills: MATLAB, Python, R, Machine Learning