Bowen Yang

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Education

Doctor of Philosophy in Civil Engineering **Lincoln, NE**
University of Nebraska–Lincoln, GPA: 3.98/4.00 Exp *July 2023*
Advisor: Joshua Steelman, PhD, PE

Master of Science in Civil Engineering **State College, PA**
Pennsylvania State University Park, GPA: 3.54/4.00 *May 2018*
Advisor: Jeffrey A. Laman, PhD, PE

Work Experience

Research Assistant **Lincoln, NE**
University of Nebraska-Lincoln *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 **Lincoln, NE**
University of Nebraska-Lincoln *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

Pennsylvania State University Park **State College, PA**
Master Thesis Research *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 **Lincoln, NE**
University of Nebraska-Lincoln *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 **Lincoln, NE**
University of Nebraska-Lincoln *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 **Lincoln, NE**
University of Nebraska-Lincoln *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. (2023). A Reliability-Based Service III Operational Evaluation for Prestressed Girder Bridges Under Platoon Loads. *In Transportation Research Board Conference Proceedings (accepted)*.
- PI, R. L. W., Nasimi, M., **Yang, B.**, & Wittich, C. E. (2022). Outdoor Laboratory and Testbed for Bridge Health. *Contract*, 26, 1121-4048.
- **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)

Certificates

- 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

- John W. Hossack Engineering Fund Scholarship *July 2022*
- 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: Machine Learning, Python, MATLAB, HTML, CSS, JavaScript, R, C language