

Jialing Wu

The Ohio State University,
Department of Engineering Education

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EDUCATION

The Ohio State University, Department of Engineering Education Expected May 2028
Ph.D. in Engineering Education
Minor in Computer Science and Engineering — AI Track
Advisor: Dr. Adam Carberry
Vanderbilt University, Peabody College May 2024
Master of Education, International Education Policy and Management
Shanghai University July 2017
Bachelor of Engineering, Mechanical Engineering

SCHOLARLY INTERESTS

Engineering Education (Pre-college, International), Computational Social Science (Machine Learning, LLMs, Network Analysis, GIS), Critical Quantitative Methods (person-centered approaches, equity-focused analysis), AI Policy in Education (classroom integration, faculty and student perspectives)

PEER-REVIEWED PUBLICATIONS

Journal Articles

[18] **Wu, J.**, Dalal, M., Figard, R., & Carberry, A. R. (in press). Understanding TGNC students' experiences in pre-college engineering education: A latent profile analysis. *Journal of Pre-College Engineering Education Research*.

Book Chapters

[17] Yan, J., **Wu, J.**, & Wei, X. (in press). Silent policies: How GenAI guidelines in U.S. higher education overlook international students' experiences. In A. Chen (Ed.), *Generative AI for supporting international student well-being in higher education*. IGI Global.

Conference Papers

- [16] **Wu, J.**, Ren, S., & Wang, S. (2026). Using bipartite network analysis to examine global collaboration between engineering and STEM education (2014–2024). *2026 ASEE Annual Conference & Exposition Proceedings*, Charlotte, NC.
- [15] **Wu, J.**, & Wang, S. (2026). What does the “person-centered quantitative approach” mean in practice? A literature review in STEM education research [Work-in-progress paper]. *2026 ASEE Annual Conference & Exposition Proceedings*, Charlotte, NC.
- [14] **Wu, J.**, & Carberry, A. (2026). Integrating robotics and engineering education: Initial validation testing of an SCCT- and CT-based survey instrument [Work-in-progress paper]. *2026 ASEE Annual Conference & Exposition Proceedings*, Charlotte, NC.
- [13] **Wu, J.**, & Lyra, M. M. de. (2026). Exploring perspectives on pre-college robotics education: A social media-based topic and emotion analysis [Work-in-progress paper]. *2026 ASEE Annual Conference & Exposition Proceedings*, Charlotte, NC.
- [12] Lyra, M. M. de., **Wu, J.**, & Carberry, A. (2025). Exploring early-career engineering faculty experiences teaching using social cognitive theory. *2025 IEEE Frontiers in Education Conference (FIE)*, Atlanta, GA. <https://doi.org/10.1109/FIE63693.2025.11328485>

- [11] Dalal, M., **Wu, J.**, & Iqbal, A. (2025). Overcoming challenges in robotics education: Examining teacher facilitators and barriers. *Research in Engineering Education Symposium (REES)*, Johor Bahru, Malaysia.
- [10] **Wu, J.**, Dalal, M., & Carberry, A. (2025). Advancing equity: Exploring the experiences of transgender and gender non-conforming students in a pre-college engineering course [Work-in-progress paper]. *2025 ASEE Annual Conference & Exposition Proceedings*, Montreal, QC, Canada. <https://doi.org/10.18260/1-2--57577> — **Second Place Best Division Paper, ASEE Pre-College Engineering Education Division**
- [9] Wei, X., **Wu, J.**, & Klein-Gardner, S. (2025). Parents' knowledge, attitudes, and behaviors on pre-college engineering education course [Work-in-progress paper]. *2025 ASEE Annual Conference & Exposition Proceedings*, Montreal, QC, Canada. <https://doi.org/10.18260/1-2--55568>
- [8] Lachapelle, C., Dalal, M., McKeown, K., & **Wu, J.** (2025). Curriculum design for all learners. *2025 ASEE Annual Conference & Exposition Proceedings*, Montreal, QC, Canada. <https://doi.org/10.18260/1-2--56190>
- [7] **Wu, J.**, & Dalal, M. (2024). High school students' perspectives on pre-college engineering education courses (Fundamental). *2024 ASEE Annual Conference & Exposition Proceedings*, Portland, OR. <https://doi.org/10.18260/1-2--47527>
- [6] **Wu, J.**, Leger, N., & Klein-Gardner, S. (2024). High school students' perspectives on mathematical modeling in the engineering design process (RTP). *2024 ASEE Annual Conference & Exposition Proceedings*, Portland, OR. <https://doi.org/10.18260/1-2--47528>

Conference Presentations

- [5] Wang, J., **Wu, J.**, & Cheng, Y. (2026, July 28–31). Cross-cultural evaluation of LLMs: A mixed-method study of Chinese-to-English movie title translation [Poster presentation]. *12th International Conference on Computational Social Science (IC2S2 2026)*, Burlington, VT.
- [4] Wei, X., & **Wu, J.** (2026, April 8–12). Navigating AI in higher education: Student views on professors' attitudes toward AI tools in the classroom analyzed through sentiment analysis and topic modeling [Conference presentation]. *American Educational Research Association (AERA) Annual Meeting*, Los Angeles, CA.
- [3] **Wu, J.**, & Yan, J. (2026, March 28 – April 1). Comparing high school accessibility in California and New York: A GIS-based assessment [Conference presentation]. *Comparative and International Education Society (CIES) Annual Conference*, San Francisco, CA.
- [2] Wei, X., **Wu, J.**, Klein-Gardner, S., & Dalal, M. (2025, November 10–15). Evaluating fidelity of teaching in pre-college engineering: A case study of curriculum implementation [Conference presentation]. *Evaluation 2025*, Portland, OR. eval25.eventscribe.net
- [1] Darling-Aduana, J. S., Heinrich, C., Noonan, J., **Wu, J.**, & Enriquez, K. (2025, April 23–27). Failing to learn from failure: The facade of online credit recovery assessments [Conference presentation]. *American Educational Research Association (AERA) Annual Meeting*, Denver, CO. <https://doi.org/10.3102/ip.25.2182630>

Manuscripts Under Review / In Preparation

- [5] Yan, J., Wei, X., & **Wu, J.** (revise and resubmit). Curriculum- and grade-level AI policy implementation: A comparative analysis of North Carolina and California. *Educational Policy*.
- [4] Darling-Aduana, J. S., Heinrich, C., Noonan, J., **Wu, J.**, & Enriquez, K. (under review). Failing to learn from failure in online credit recovery assessments. *Journal of Policy Analysis and Management* (Policy Insights section).
- [3] **Wu, J.**, & Li, D. (under review). Teachers as AI policy actors: Focus group evidence from a K–12 robotics consortium. *Association for Public Policy Analysis & Management (APPAM) Annual Fall Research Conference*.

- [2] Berhane, B., Dalal, M., Ross, L., **Wu, J.**, & Wang, J. (in preparation). Examining student- and school-level outcomes in pre- and post-survey data from a pre-college engineering program. Target: *International Journal of Engineering Education*.
- [1] **Wu, J.**, Wei, X., & Yan, J. (in preparation). Engineering education deserts in the United States: A geographic random forest analysis of spatial inequity in broad-access engineering programs. Target: *AERA Open*.

HONORS AND FELLOWSHIPS

Frederic Bastiat Fellowship (\$5,000), Mercatus Center at George Mason University	2025–2026
Career Development Grant (\$350), The Ohio State University	2025
Smith Scholarship (\$1,000), Engineering Education, The Ohio State University	2025
Scholastic Achievement Scholarship (\$26,500), Vanderbilt University, Peabody College	2022–2024
University Scholarship for Academic Excellence , Shanghai University	2014, 2015

PROFESSIONAL EXPERIENCE

Research Experience

The Ohio State University, Columbus, OH August 2024 – Present
Graduate Research Assistant, Department of Engineering Education
 (with Dr. Adam Carberry)

The e4usa+FIRST program pairs the e4usa curriculum with FIRST Robotics for high school students.

- Lead the development of survey instruments grounded in Social Cognitive Career Theory (SCCT) and computational thinking to assess student self-efficacy, identity, and skill development.
- Collect pre-test data via Google Forms for initial validity checks of the survey instrument.
- Prepare and submit IRB applications and protocols across multiple high school program sites.
- Conducted qualitative analysis of teacher interviews on robotics curriculum implementation, identifying facilitators and barriers; co-authored methods and results sections.

Vanderbilt University, Nashville, TN June 2023 – July 2024
Graduate Research Assistant, School of Engineering
 (with Dr. Stacy Klein-Gardner, Dr. Medha Dalal)

e4usa is a national initiative introducing engineering design principles to high school students.

- Investigated high school students' perspectives on engineering courses through qualitative analysis of post-test responses; developed codebooks and conducted pre/post statistical comparisons across cohorts.
- Analyzed focus group data on mathematical modeling tools through cognitive load theory.
- Co-authored two ASEE 2024 conference papers; led research group meetings and managed timelines.
- Revised Unit 2 curriculum (water filters → wind turbines), redesigning lessons and MATLAB code.
- Drafted facilitator memos for summer teacher PD programs and managed Canvas course materials.

Teaching Experience and Curriculum Development

The Ohio State University, Columbus, OH August 2026 – May 2027
Graduate Teaching Assistant, Department of Engineering Education

Curriculum Development

2023 – Present

- Designed the XRP Robotics Curriculum Kit (e4usa + FIRST, OSU, Spring 2025) grounded in the 7 Smart Teaching Principles, with scaffolded programming activities (pseudocode → block-based → Python).
- Developed teaching portfolio materials (sample syllabus, instructional plan, and assessment design) for ENGREDU 6100: Foundations of Engineering Education (OSU, Autumn 2024).
- Co-designed e4usa Unit 2B: Wind Energy (2023–2024), a pre-college unit (grades 9–12) with 13 lessons and 22 activities on creativity through wind turbine design, published on TeachEngineering.

Industry Experience

Howard Hughes Medical Institute (HHMI), Chevy Chase, MD Assessment Intern, Science Education (BioInteractive Team)

May 2024 – August 2024

- Developed an HTML codebook (9 chapters, 25 sections) guiding accessible Canvas course design.
- Conducted UDOIT accessibility audits and authored a guideline handbook for content editors.

Shanton Way Executive Search, Shanghai, China Consultant

July 2017 – July 2022

- Executive recruitment for clients in international K–12 education, consulting, finance, and technology sectors.
- Sourced and managed a candidate pool of 1,500+ bilingual professionals across international schools.

TRAINING AND CERTIFICATES

College and University Teaching Graduate Certificate

In Progress

The Ohio State University — Selected coursework: College Teaching; Learning Theory, Pedagogy, and Assessment in Engineering Education

Summer Institute in Computational Social Science

2025

University of Rochester — Topics: LLMs, network analysis

ICPSR Summer Program

2024

University of Michigan — Topics: Python programming, R programming, text analysis

SERVICE AND LEADERSHIP

Professional Service

Reviewer; Journal of Engineering Education 2026

Reviewer; AERA Annual Meeting 2026

Reviewer; ASEE Annual Conference & Exposition 2025, 2026

Discussant; APPAM Annual Fall Research Conference 2026

Session Chair, Student Session; ASEE Annual Conference & Exposition 2026

Community Service

Graduate Ambassador; Department of Engineering Education, OSU 2025–2026

Founding Member and Treasurer; iMAP, Vanderbilt University 2023–2024

Mentor; Peabody Peer Career Mentor Program, Vanderbilt University 2023–2024

Mentor; Peabody International Students and Affairs, Vanderbilt University 2023–2024

Migrant Children Program Coordinator and Teacher; AIQUZHI Volunteer Group 2017–2022

PROFESSIONAL REFERENCES

Adam R. Carberry, Ph.D.

Professor and Department Chair

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