

Mei Tan

✉ mxtan@stanford.edu ☎ +1 979 739 1545 in meiflwr

EDUCATION

PhD in Education Data Science expected 2028 STANFORD UNIVERSITY

Research : EduNLP Lab; Developing language models to measure and support instructional practice

Minors : Linguistics, Human-Centered Design

Master of Science in Education Data Science 2023 STANFORD UNIVERSITY

Specializations : Natural Language Processing, Learning Analytics, Experimental Research Design

+ *Certificate in Partnership Research in Education*

Bachelor of Science in Computer Science 2017 RICE UNIVERSITY

Specializations : Human Factors and Human Computer Interaction

PUBLICATIONS

- **Tan, M.**, Phalen, L., & Demszky D. (2026). Marked Pedagogies: Examining Linguistic Biases in Personalized Automated Writing Feedback. In LAK26: 16th International Learning Analytics and Knowledge Conference.
- **Tan, M.** & Demszky, D. (2026). Do as I Say: What Teachers' Language Reveals About Classroom Management Practices. Educational Researcher.
- **Tan, M.**, Demszky, D., & students of CS293/EDUC473. (2025). Language models in the classroom: Bridging the gap between technology and teaching. Stanford Institute for Human-Centered Artificial Intelligence.
- **Tan, M.**, Lee, H., Wang, D., & Subramonyam, H. (2024). Is a seat at the table enough? Engaging teachers and students in dataset specification for ml in education. Proceedings of the ACM on Human-Computer Interaction, 8(CSCW1), 1-32.
- **Tan, M.**, & Subramonyam, H. (2024). More than model documentation: uncovering teachers' bespoke information needs for informed classroom integration of ChatGPT. In Proceedings of the 2024 CHI Conference on Human Factors in Computing Systems (pp. 1-19).
- **Tan, M.**, Mah, C., & Demszky, D. (2024). Reframing Authority: A Computational Measure of Power-Affirming Feedback on Student Writing. In Proceedings of the Eleventh ACM Conference on Learning@ Scale (pp. 417-421).

PRESENTATIONS

- **Tan, M.** (2025). A Teacher's Guide to LLMs [Invited talk]. Practitioner Voices: Language Technologies in Math Education, Stanford University.
- **Tan, M.** (2025). Towards High Quality Automated Feedback on Student Writing [Invited talk]. International Symposium The Future of Feedback, Schloss Marbach (Leibniz-IPN & Jacobs Foundation), Germany.
- **Tan, M.**, Sparks, A. (2025). Enough Hype! Feedback in the Age of AI [Invited talk]. Research presentation at the International Society for Technology in Education Conference & Expo, San Antonio, TX.

WORK EXPERIENCE

GRADUATE RESEARCHER & TEACHING FELLOW 2021 - present STANFORD UNIVERSITY

Measuring Instructional Quality (Evaluation & Benchmarking)

- Co-designed domain-specific annotation schemes to measure instructional dimensions (e.g., feedback quality, math item complexity, teacher talk moves in classroom transcripts), rooted in education theory and developed through iterative collaboration with teachers and teacher educators
- Built custom labeling interfaces (web-apps) and designed novel annotation tasks to elicit and calibrate multi-dimensional practitioner expertise
- Developed analytic and generative models that operationalize latent pedagogical constructs, creating NLP benchmarks and scalable measures of instructional quality

Evaluating and Adapting LLMs for Educational Tasks

- Built and evaluated instruction-tuned LLMs for educational use cases such as automated feedback on student essays and math item generation.
- Collected authentic educational data through classroom observations and cognitive task analysis to train models via SFT
- Collected pairwise and scalar preference judgments and developed custom reward models based on educational quality measures for training (via RLHF, PPO, DPO) and evaluation

TA for CS293: Empowering Teachers through Language Technologies

- Taught NLP methods to interdisciplinary students, developed course materials and coding assignments

SENIOR SOFTWARE ENGINEER 2017 - 2021

MICROSOFT EDUCATION

Technical lead and full-stack development building tools for learning and classroom management

- Developed core learning management features as a founding member of a new edtech product, including tools for differentiated learning, file management, rubric support, student engagement and grading dashboards, notifications and reminders
- Implemented data-driven systematic improvements to support scalability and ensure service reliability as the product experienced exponential growth, reaching 85M users during the pandemic
- Led the delivery of several key partner integration features with MakeCode, Turnitin.com, and reading practice assignments through cross-company collaborations
- Analyzed system-level and click-stream data, visualized and presented insights, designed data collection and performed AB-testing to motivate data-driven improvements to the user experience

COMPUTER SCIENCE TEACHER 2019 - 2021

ANDRESS HIGH SCHOOL

Volunteer high-school computer science instructor and curriculum developer through TEALSK12

- Served as a remote classroom instructor collaborating with and providing CS-instruction professional development for local teachers. Developed project-based curriculum using MakeCode and Scratch block-coding, microbit, repl.it, and glitch to teach computing fundamentals, algorithmic thinking, Python and web development

SKILLS

- *Core Competencies:* statistical analysis, natural language processing, reinforcement learning, data annotation, qualitative analysis, psychometrics, cross-domain collaboration, UX design, literature review
- *Programming Languages:* Python (pandas, PyTorch, TensorFlow, HuggingFace Transformers, scikit-learn, nltk), R (tidyverse, dplyr, igrph, ggplot2, shiny), JavaScript (React, D3.js, Next.js), C, C# (.NET), Java, SQL, HTML/CSS
- *Design:* Figma, Illustrator, Premiere Pro
- *Tools:* Firebase, Weights & Biases, Label Studio, Qualtrics, Prolific, Microsoft Azure, Vercel