Janet Jiang

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Education

University of Washington Seattle, WA
PhD in Computer Science and Engineering 09/2025 - Present

Duke University Durham, NC
Bachelor of Science in Computer Science (Summa Cum Laude) 08/2021 - 05/2025

- Dean's List with Distinction (All Semesters) GPA: 4.0
- Honorable Mention for the 2024-2025 CRA Outstanding Undergraduate Researcher Award
- Alex Vasilos Memorial Award (given to a graduating senior for excellence in computer science research)
- Rebecca DeNardis Memorial Award (given to a graduating senior who has has contributed significantly to maintaining and building excellence in the undergraduate program)
- Duke Computer Science Department Outstanding Undergraduate Teaching Assistant Award (Spring 2023, 2025)
- ***Thesis (With Highest Distinction):*** Peer Instruction in Hybrid Computing Courses: The Relationships Between Student Modality, Discussion, and Learning

Technical Skills

Programming Languages: Python (proficient), SQL, R, Java, Typescript
Tools and Frameworks: Jupyter Notebook, GitHub, GitLab, Flask, MongoDB, React
Libraries: Pandas, NumPy, Seaborn, Matplotlib, SciPy, Scikit-Learn

Research Experience

Stereotype Threats in CS Assessments
Advised by Amy Ko 06/2024 - Present

- Coordinated with external collaborators from ETS to design a study to determine whether item design in online computer science assessments can trigger stereotype threats in novice programmers.
- Read and synthesized 25+ papers on the trade-offs of contextualizing programming problems and how stereotype threats impact students' performance.
- Wrote 27 coding problems that either reinforced gender/cultural/racial stereotypes, subverted these stereotypes, or were devoid of narrative.
- Added functionality to an existing coding platform, including recording new keystroke log data, routing participants between problem sets based on survey responses, and randomizing problem order per user.
- Wrote scripts to process student keystroke log data and detect copy/paste behavior, and served as point of contact for 450 study participants and oversaw participant compensation.

Ecological Belonging Interventions in Introductory CS Classrooms
Advised by Kristin Stephens-Martinez 07/2024 - 09/2025

- Introduced a 30-minute ecological belonging intervention to an introductory programming course.
- Adapted materials from previous iterations of the intervention in biology and physics courses and trained 20 undergraduate teaching assistants to perform the intervention.
- Wrote an IRB protocol to collect students' class participation, exam, enrollment, and demographic data.
- Analyzed how the intervention impacted students' sense of belonging, self-efficacy, course engagement, retention, and exam performance, and whether the intervention is more effective for certain demographic groups.

Peer Instruction in Hybrid Computing Courses
Honors Thesis, Advised by Kristin Stephens-Martinez 12/2023 - 12/2024

- Conducted a literature review (40+ papers) on different hybrid course structures and the use of peer instruction in computing classrooms.

- Independently designed the data processing pipeline and architecture to clean and aggregate 450+ files from five offerings of an undergraduate data science elective.
- Ran non-parametric statistical tests to (1) evaluate how peer instruction facilitates student learning of computing concepts across in-person and online modalities of hybrid courses, (2) determine how students' discussions between rounds of peer instruction relate to their learning, and (3) identify whether students' learning varies when hybrid courses follow different attendance policies.

Diversity in Undergraduate Computing
CRA UR2PhD Program, Advised by Kristin Stephens-Martinez 08/2023 - 07/2024

- Attended a research methods course that met for 2 hours/week over Zoom.
- Worked with another Duke undergraduate on two projects. The projects respectively (1) evaluated the racial and gender diversity of students and undergraduate teaching assistants (UTA) in four core CS courses, and (2) explored how UTA/student diversity and prior UTA experience related to student performance and persistence in CS.
- Conducted a literature review (20+ papers) on potential measurements of racial diversity, how UTAs influence student grades and sense of belonging, and whether shared identity with graduate teaching assistants affects persistence and performance.
- Cleaned, aggregated, and visualized 11 semesters' worth of data, which included nearly 10,000 students and 1,000 UTAs, and performed linear regressions to observe trends in diversity.

Educational Data Analysis and Mining for Hybrid Classes
Duke CS+ Summer Research Program, Advised by Kristin Stephens-Martinez 05/2023 - 08/2023

- Analyzed mid-semester survey, peer instruction, and Zoom log data across 125 files to determine the relationships between student modality, peer instruction discussion, and class sentiment in a hybrid course.
- Summarized and presented my research team's findings as a poster at ACM SIGCSE TS 2024.

Publications

Journal papers under review
1. **Janet Jiang**, Shao-Heng Ko, and Kristin Stephens-Martinez. *Peer Instruction in Hybrid Computing Courses: The Relationships Between Student Modality, Discussion, and Learning*.
2. **Janet Jiang**, Jonathan Liu, Shao-Heng Ko, Diana Franklin, and Kristin Stephens-Martinez. *Adapting an Ecological Belonging Intervention to an Introductory Computer Science Course*.

Conference Papers
1. Alex Chao, **Janet Jiang**, and Kristin Stephens-Martinez. *How Shared Gender Identity with Teaching Assistants Relates to Student Outcomes in an Undergraduate Algorithms Course.* In ACM SIGCSE TS 2026 (accepted, forthcoming).

Poster Presentations
1. Salma El Otmani, **Janet Jiang,** Shao-Heng Ko, and Kristin Stephens-Martinez. 2024. The Relationships Between Modality, Peer Instruction Discussion, and Class Sentiment in Hybrid Courses. In Proceedings of the 55th ACM Technical Symposium on Computer Science Education V. 2 (SIGCSE 2024). ACM, New York, NY, USA, 1634–1635. https://doi.org/10.1145/3626253.3635514.

Work Experience

Head Undergraduate Teaching Assistant
Duke University Computer Science Department, CS101 (Introduction to Computer Science) 04/2023 - 05/2025

In addition to regular UTA duties (see "Undergraduate Teaching Assistant"):

- Participated in weekly meetings with professors and teaching staff and served as a point of contact for ∼30 UTAs.
- Wrote scripts to process and visualize data from office hours and the course's online discussion platform to ensure that UTAs fulfill their duties and that students receive help in a timely manner.
- Collected student feedback on coding assignments and updated the documentation for clarity.
- Designed new interview questions for potential UTAs and standardized the interview process by writing detailed evaluation rubrics. In these rubrics, interviewers indicated whether candidates achieved specific tasks in their answers to each question, such as identifying correct intermediate values while tracing a while loop.

- Organized the UTA office hours schedule and informed students of how they can access help resources outside of lecture.
- Taught a lecture on for loops, the accumulator idiom, and the range function in September 2024.
- Taught a lecture on DeMorgan's Law, short circuit evaluation in Python, and tuples in February 2025.

Associate Head Undergraduate Teaching Assistant
Duke University Computer Science Department, CS216 (Everything Data) 08/2023 - 12/2023

In addition to regular UTA duties (see section below):

- Participated in weekly meetings with the professor and graduate teaching assistants (GTAs).
- Wrote scripts to process and visualize pre-class quiz data. These visualizations informed the instructor of what content she should emphasize during lectures.
- Trained 2 GTAs and 1 UTA on how to prepare and maintain the Gradescope autograder.

Undergraduate Teaching Assistant (all at Duke University)
CS101 (Introduction to Computer Science) 08/2022 - 04/2023

- Hosted weekly consulting hours to review course concepts and help students debug programming assignments.
- Instructed a weekly lab section of 25-30 students.
- Graded homework and exams.
- Answered questions on Ed Discussion, an asynchronous discussion platform.
- Sat in on lecture to help answer questions and facilitate peer instruction.

CS216 (Everything Data) 01/2023 - 05/2023

- Designed unit tests and set up the autograder for homeworks/classwork.
- Graded homework and exams.
- Provided students with feedback on open-ended, collaborative final projects.

CS230 (Discrete Math) 07/2023 - 08/2023

- Created and graded homework.

AP Macro/Microeconomics Tutor
Pano Education 12/2021 - 04/2023

College Consultant and SAT Tutor
Self-Employed 08/2020 - 02/2025

Leadership Experience

Drum Major
Duke University Marching and Pep Bands 04/2022 - 05/2023

- Coordinated with the band director, media team, and cheerleading coaches to run band operations at home football/basketball games and select NCAA tournament games.
- Conducted pre-game and halftime shows and assisted section leaders in teaching drill at tri-weekly rehearsals.
- Wrote letters to welcome prospective members to the band.

Freshman Representative
Duke University Marching and Pep Bands 09/2021 - 05/2022

- Served as the bridge between the leadership team and the freshmen by advocating for the freshman interest at biweekly officer meetings and answering questions related to game day logistics, rehearsal schedules, etc.
- Planned social events aimed at promoting unity among the freshman class, including an escape room activity.