

Janet Jiang

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EDUCATION

Duke University

Durham, NC

Bachelor of Science in Computer Science

08/2021 - 05/2025

- Dean's List with Distinction (Fall 2021, Spring 2022, Fall 2022, Spring 2023, Fall 2023, Spring 2024) GPA: 4.0
- Computer Science Department Outstanding Undergraduate Teaching Assistant Award (Spring 2023)

TECHNICAL SKILLS

Programming Languages: Python (proficient), SQL (proficient), R, Java, Typescript, C

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

DUB REU, 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 papers on how stereotype threats impact student performance, perceptions, and persistence, as well as how stereotype threats can be elicited during STEM assessments.
- Wrote 27 coding problems to be completed by study participants. Each problem was either devoid of narrative, reinforced gender/cultural/racial stereotypes, or subverted said stereotypes, and we intend on analyzing whether this context influences students' problem solving processes.
- Updated an existing coding platform to, among other things, record new keystroke log data, route participants between problem sets based on survey responses, and randomize the order of the problems for each user. Wrote scripts to process student keystroke log data and detect copy/paste behavior.
- Served as point of contact for study participants and oversaw participant compensation.

Peer Instruction in Hybrid Courses

Honors Thesis, Advised by Kristin Stephens-Martinez

12/2023 - Present

- Conducted a literature review on different hybrid course structures and the use of peer instruction in computer science classrooms.
- Independently designed the data processing pipeline and architecture to clean and aggregate peer instruction data from five offerings of an undergraduate data science elective.
- Used non-parametric tests to (1) evaluate the effectiveness of peer instruction at facilitating student learning across in-person and online modalities of hybrid courses, (2) determine how students' discussions between rounds of peer instruction relate to their learning gains and (3) identify whether these learning gains vary when courses follow different hybrid policies.

Diversity in Undergraduate Computing

CRA UR2PhD Program

08/2023 - 07/2024

- Attended a resource methods course that met for 2 hours/week over Zoom.
- Worked with another Duke undergraduate on two projects that respectively focused on (1) evaluating the racial and gender diversity of students and undergraduate teaching assistants (UTA) in four core CS courses, and (2) exploring how UTA/student diversity and prior UTA experience related to student performance and persistence in CS.
- Conducted a literature review on potential measurements of racial diversity, how UTAs influence student outcomes and sense of belonging, and whether shared identity with graduate teaching assistants affects persistence and performance.
- Processed and visualized 11 semesters of data and performed linear regressions to observe trends in diversity.

Educational Data Analysis and Mining for Hybrid Classes

Duke CS+ Summer Undergraduate Research Program

05/2023 - 08/2023

- Analyzed mid-semester survey, peer instruction, and Zoom log data to determine the relationships between student modality, peer instruction discussion, and class sentiment.
- Summarized my research team's findings as a poster that was accepted to ACM SIGCSE TS 2024; presented the poster at the conference.

PUBLICATIONS

Manuscripts under review

Janet Jiang, Shao-Heng Ko, and Kristin Stephens-Martinez. 2024. *Peer Instruction in Hybrid Courses: The Relationships Between Student Modality, Discussion, and Learning*. Submitted to the ACM Transactions on Computing Education.

Poster Presentations

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

04/2023 - Present

- Participated in weekly meetings with professors and teaching staff and served as point of contact for undergraduate teaching assistants (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.
- Created new interview questions for potential UTAs and standardized the interview process by designing detailed evaluation rubrics.
- Organized the UTA office hours schedule and informed the students of how to access help resources outside of lecture at the beginning of each semester.
- Taught a lecture on for loops, the accumulator idiom, and the range function in Fall 2024.

Associate Head Undergraduate Teaching Assistant

Duke University Computer Science Department, CS216

08/2023 - 12/2023

- In addition to regular UTA duties, participated in weekly meetings with professors and teaching staff.
- Wrote scripts to process and visualize pre-class quiz data.
- Trained other teaching assistants on how to prepare and maintain the Gradescope autograder.

Undergraduate Teaching Assistant

CS101 (CS1)

08/2022 - 04/2023

- Hosted weekly consulting hours to review course concepts and help students debug programming assignments.
- Monitored Ed Discussion platform to ensure student questions are answered in a timely manner.
- Graded student labs, homeworks, and exams.
- Instructed a weekly lab section of 25-30 students.
- Sat in on lecture to help answer student questions and facilitate peer instruction usage.

CS216 (Data Science Elective)

01/2023 - 05/2023

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

CS230 (Discrete Math)

07/2023 - 08/2023

- Created and graded student homeworks.

AP Macro/Microeconomics Tutor

Pano Education

12/2021 - 04/2023

College Consultant and SAT Tutor

Self-Employed

08/2020 - Present

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 and officers in teaching drill at tri-weekly rehearsals.

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 freshmen, such as an escape room activity.