R. TEAL WITTER

rtealwitter@nyu.edu / www.rtealwitter.com

EDUCATION

NYU Tandon *September 2020 - Present*
PhD in Computer Science Dean's PhD Fellowship
Advised by Lisa Hellerstein and Christopher Musco

Middlebury College *February 2017 - May 2020*
BA in Mathematics Summa Cum Laude
BA in Computer Science Phi Beta Kappa

RESEARCH INTERESTS

Deep learning, discrete optimization, randomized algorithms, and quantum computing

NATIONAL AWARDS

NSF Graduate Research Fellowship Program	2022-25
Fulbright Scholar (I declined due to COVID)	2020
Goldwater Scholar	2019
Academic All-American (National Speech and Debate Association)	2015

PEER-REVIEWED PUBLICATIONS

Note: As is the tradition in theoretical computer science, authors are ordered alphabetically by last name unless otherwise noted with an asterisk.

Michael Czekanski, Shelby Kimmel, R. Teal Witter. Robust and Space-Efficient Dual Adversary Quantum Query Algorithms. *European Symposium on Algorithms (ESA 2023).*

Lucas Rosenblatt, R. Teal Witter. Counterfactual Fairness Is Basically Demographic Parity. *AAAI Conference on Artificial Intelligence (AAAI 2023).*

Lisa Hellerstein, Thomas Lidbetter, R. Teal Witter. A Local Search Algorithm for the Min-Sum Submodular Cover Problem. *International Symposium on Algorithms and Computation (ISAAC 2022).*

Lisa Hellerstein, Devorah Kletenik, Naifeng Liu, R. Teal Witter. Adaptivity Gaps for the Stochastic Boolean Function Evaluation Problem. *Workshop on Approximation and Online Algorithms (WAOA 2022).*

Christopher Musco, Indu Ramesh, Johan Ugander, R. Teal Witter. How to Quantify Polarization in Models of Opinion Dynamics. *International Workshop on Mining and Learning with Graphs (MLG 2022).*

R. Teal Witter. Backgammon is Hard. *International Conference on Combinatorial Optimization and Applications (COCOA 2021).*

Shelby Kimmel, R. Teal Witter. A Query-Efficient Quantum Algorithm for Maximum Matching on General Graphs. *Algorithms and Data Structures Symposium (WADS 2021).*

R. Teal Witter, Alex Lyford.* Applications of Graph Theory and Probability in the Board Game *Ticket to Ride.* *International Conference on the Foundations of Digital Games (FDG 2020).*

Kai DeLorenzo, Shelby Kimmel, R. Teal Witter. Applications of the Quantum Algorithm for *st*-Connectivity. *Conference on the Theory of Quantum Computation, Communication and Cryptography (TQC 2019).*

TEACHING

Deep Learning (Middlebury CSCI 1051)
Course Instructor *Winter 2023*

Deep Learning (NYU CS-GY 6953)
Course Assistant *Fall 2022, Spring 2023, Fall 2023*

Algorithmic Machine Learning and Data Science (NYU CS-GY 6763)
Course Assistant *Fall 2021, Spring 2022, Fall 2023*

Machine Learning (NYU CS-GY 6923)
Course Assistant *Spring 2021, Spring 2023*

TALKS

Robust and Space-Efficient Dual Adversary Quantum Query Algorithms
Centrum Wiskunde & Informatica QuSoft Seminar September 2023

Adaptivity Gaps for the Stochastic Boolean Function Evaluation Problem
Workshop on Approximation and Online Algorithms September 2022

How to Quantify Polarization in Models of Opinion Dynamics
International Workshop on Mining and Learning with Graphs August 2022

A Local Search Algorithm for the Min-Sum Submodular Cover Problem
International Symposium on Algorithms and Computation December 2022
International Symposium on Artificial Intelligence and Mathematics January 2022

Backgammon is Hard
International Conference on Combinatorial Optimization and Applications December 2021

A Query-Efficient Quantum Algorithm for Maximum Matching on General Graphs
Algorithms and Data Structures Symposium August 2021

Applications of Graph Theory and Probability in the Board Game *Ticket to Ride*
International Conference on the Foundations of Digital Games September 2020
MAA Contributed Paper Session at the Joint Mathematics Meetings January 2020

Applications of the Quantum Algorithm for *st*-Connectivity
Conference on the Theory of Quantum Computation, Communication and Cryptography June 2019

SERVICE

Conference Reviewing
QIP, ICALP, TQC, NeurIPS, ICLR

Journal Reviewing

Information Processing Letters

MENTORSHIP AND OUTREACH

Lead weekly coding sessions at Brooklyn International High School. Spring 2021 - Present

Advised a project by Xiaorui Lei (BIHS '22) and Bryant Chen (BIHS '22). Summer 2022