Tina Giorgadze

Email: tg2876@columbia.edu | LinkedIn: TinaG

EDUCATION

Columbia University, New York, NY
Ph.D. candidate in Statistics (third-year student)

Bard College, Annandale-on Hudson, NY
B.A. in Mathematics & Computer Science; anticipated in May 2023 - **GPA 3.98**

- Distinguished Scientist Scholarship Recipient at Bard College, 2019-2023
- Dean's List Spring 2019 - Spring 2022

SKILLS

Computer Programming: Java, Python, Processing, LaTeX, MATLAB, Twine, Racket
Data Analysis: Excel, Spreadsheets, STATA, R, Pytorch
Languages: English (fluent), Georgian (native), Russian (upper-intermediate)

PUBLICATIONS

- **Giorgadze T**, Fischel H, Tessier A, Norton K-A. Investigating Two Modes of Cancer-Associated Antigen Heterogeneity in an Agent-Based Model of Chimeric Antigen Receptor T-Cell Therapy. *Cells*. 2022; 11(19):3165. https://doi.org/10.3390/cells11193165
- H. Fischel, **T. Giorgadze**, A. Tessier and K. -A. Norton, "Computational Modeling of Chimeric Antigen Receptor (CAR) T-Cell Therapy of a Binary Model of Antigen Receptors in Breast Cancer," *2021 IEEE International Conference on Bioinformatics and Biomedicine (BIBM)*, 2021, pp. 3267-3274, DOI: 10.1109/BIBM52615.2021.9669393.

CONFERENCES/TALKS/PRESENTATIONS

- "Text Simplification Using Graph Algorithms", Women in Mathematics in New England, September 2022
- "Using Sentence Fusion Graph For Text Simplification", Symposium for Undergrad Math Research, September 2022
- "Using a Computational Model to Simulate Chimeric Antigen Receptor (CAR) T-Cell Therapy in Triple-Negative Breast Cancer with Binary Distribution of Antigen Receptors", New York Celebration of Women in Computing, April 2022
- "Building an agent-based model to simulate breast cancer immunotherapy," 2021 IEEE International Conference on Bioinformatics and Biomedicine, BIBM 2021, December 2021
- "Computational Model of Chimeric Antigen Receptor (CAR) T-Cell Therapy in Triple-Negative Breast Cancer with Binary Distribution of Antigen Receptors", Bard Summer Research Institute (BSRI) 2021 Poster Session, October 2021
- "Computational Modeling of Chimeric Antigen Receptor (CAR) T-Cell Therapy of a Binary Model of Antigen Receptors in Breast Cancer", Student Talks in Mathematics, Bard Math Seminars, November 2021

RESEARCH EXPERIENCE

Bard Summer Research Institute in Machine Learning (BSRI) 2022 - *Research Assistant* (*June 2022 -Present*)

- Worked on text simplification aimed to implement neural networks and a sentence fusion graph to generate simplifications of an original sentence and use machine learning tools to rank the generated sentences
- Implemented a sentence fusion graph from scratch using Python, extracting linguistic features from existing data, and training binary classification models to rank the sentences my sentence fusion graph generated

Bard Summer Research Institute in Computational Biology (BSRI) 2021 - *Research Assistant* (*June 2021 -Present*)

- Worked on computational biology research focused on building a 3D agent-based computational model of Triple-Negative Breast Cancer in order to simulate Chimeric Antigen Receptor (CAR) T-cell treatment
- Wrote code for the CAR T-cell immunotherapy module in MATLAB, developed 3D plots to visualize our model in MATLAB, conducted lit reviews, compiled introduction, methods, and results sections of the research paper
- The paper was published in BIBM 2021 Proceedings

Mathematics Research Tutorial 2021 - *Student Researcher* (*January 2021 - May 2021*)

- Worked on a math research project to analyze and research the math behind two card games: Quads and Set
- Calculated different aspects of the games, primarily the maximum caps of a certain number of cards
- Worked with partners to write up our research for a paper -. currently working to expand and publish it

Bard Summer Research Institute in Environmental Data Analysis (BSRI) *Research Assistant* (*July 2020 - August 2020*)

- Researched and monitored levels of nutrients and Fecal Indicator Bacteria (FIB) in the Sawkill Watershed

- Trained to collect, prepare, and test the quality of local water samples, measure pH, fluorescence, FIBs such as E Coli and enterococcus, nutrients (nitrate, phosphate, ammonium), and turbidity
- Analyzed existing data about rainfall and levels of FIBs in water to see whether rain increases the levels of Enterococcus and E Coli in our local water during the remote section of the research
- Presented findings at a virtual BSRI fair

TEACHING (TA EXPERIENCE)

- Probability and Statistics for Data Science Recitation, ***Fall 2025***
- Introduction to Statistics with Calculus Recitation, ***Summer 2025***
- Introduction to Probability and Statistical Inference Recitation, ***Spring 2025***
- Linear Regression Models Recitation, ***Fall 2024***
- Introduction to Statistical Reasoning, ***Fall 2023, Spring 2024***

WORK EXPERIENCE

Bard College, Annandale-On-Hudson, NY

Data Science Program Participant at Data Science Corps: Wrangle, Analyze, Visualize Program *(September 2022-present)*

- Work with a local organization HVAQ to help analyze their data and look for the trends asked for by the company
- Participate in weekly meetings with my team to obtain relevant data, organize it, and brainstorm ways to look for trends

Math Tutor (*February 2020-present)*

- Work with Bard Learning Commons to tutor students individually in math up to and including Calculus
- Hold weekly office hours for Precalculus, Calculus I, Calculus II, and Proofs
- Prepare students for AMC, SAT, and ISEE; help them complete projects and assignments
- Tutor 10 middle schoolers in mathematics, prepare them for the SHSAT exam, design curriculum, and help with homework; meet on a weekly basis

Peer Computer Science Tutor *(September 2020-present)*

- Hold weekly drop-in office hours for introductory programming and data structures classes
- Help students with programming assignments and lab work

Bard Mathematics Department's Hiring Committee Student Member (*September 2021-December 2021)*

- Selected to serve on the Bard math committee to hire a tenured professor
- Read 30 applications, provided feedback, participated in discussions, and met with selected shortlisted applicants

Bard Language and Thinking (L&T) Program Coding Instructor (*August 2021)*

- Held daily coding sessions for groups of incoming first-year students. Conducted 30-minute lectures on the usage and purpose of Twine software followed by hour-long workshops

Creative and Analytical Math (CAMP) Program Teaching Assistant *(August 2021)*

- Worked as a teaching assistant at a virtual program CAMP. Hosted 50 middle and high school students, offering daily classes and workshops in math, computer science, and arts
- Assisted instructors, communicated with students and parents, ran a daily hour of online activities for students, hosted Zoom calls, and managed break-out sessions

General Semantics Academy, Tbilisi, Georgia

Math SAT Tutor *(August 2018 - January 2019)*

- Taught SAT-level math to 30 high school seniors and juniors. Prepared worksheets, lesson plans, and assignments; organized and proctored mock SAT exams

AWARDS/ACHIEVEMENTS

- Kenneth Bush '36 Memorial Scholar in Mathematics: a scholarship given annually to a junior who has demonstrated excellence in mathematics, 2022
- Serota Award for Computer Science recipient: awarded annually to an undergraduate in computer science who has shown promise and dedication in using technology to improve the human condition and make a positive impact on society, 2022
- Invited Student Speaker at Red Hook Sawkill Watershed Community Meeting. Represented the Bard College 2020 Citizen Science Program,2020
- Competitively selected as the U.S. Embassy / Millennium Challenge Georgia's joint Women in Science (WiSci) International Summer camp participant, 2018
- Selected out of 200 participants as a member of the 7-person Georgian delegation at the International European Youth parliament Forum Armenia (IEFA), Yerevan, 2017
- Future Leaders Exchange program finalist, acceptance rate: 1.4%, 2016-2017

EXTRACURRICULAR EXPERIENCE

- Social Chair at the Statistics department of Columbia University. Work closely with the administration to plan social events for Ph.D students such as happy hours, game nights, holiday activities, movie marathons, and more.
- Founder and President of Bard Math Club for students to gather and prepare for competitions, solve problems as a group and promote math to incoming students.; Create and manage club budgets, design, and lead weekly meetings, contact potential speakers, and produce outreach materials. (Fall 2020-present)
- Coach Upstate New York Math Team. Work with middle and high school groups on a monthly basis to prepare them for olympiads and competitions. (January 2021-January 2022)
- Coordinator of Math And Girls Plus Inspiration Equals Success (MAGPIES) program. Help plan and organize monthly virtual and in-person math events for young girls
- Participant of European Youth Parliament (EYP) sessions in Georgia and Armenia; Member of the Culture and Education committee and Economics committee. Presented our resolution on cryptocurrencies to the audience and helped the team pass our resolution with no votes against it. (2017-2018)