
EDUCATION

Drew University <ul style="list-style-type: none">• Physics major, Mathematics minor (GPA: 4.00)• GRE: 169/170 Quantitative, 165/170 Verbal, 5/6 Analytical Writing	Madison, NJ	Aug 2016 – May 2020
The Juilliard School <ul style="list-style-type: none">• Cello Program	New York, NY	Aug 2015 – May 2016

RESEARCH EXPERIENCE

Research Team Lead <ul style="list-style-type: none">• Obtained statistically significant results about how people gradually arrive at a solution to a word puzzle (anagram) by designing and running a highly stimulus-manipulated eye-tracking experiment (N=29) and applying statistical tests to the data. Cleaned, prepared, and analyzed the data of 1.8 million rows and 38 columns with pandas, and implemented machine learning techniques. Currently leading a six-member research team advised by Dr. Minjoon Kouh. Presentation at the University of Scranton Brain and Behavior Conference on March 7th and journal submission later this semester. Poster can be viewed on jesseemurray.com.	Drew University	May 2019 – Present
Independent Researcher <ul style="list-style-type: none">• Created a statistical model of normal population distributions reproducing with regression towards the mean. $R^2=.92$ and $.93$ with intergenerational education and income mobility. Calculus involved model based on the linear regression equation of polygenic inheritance, simulated in python. Recently began collaboration with Dr. Minjoon Kouh to edit a paper for journal submission. Paper can be viewed on jesseemurray.com.	Drew University	Nov 2019 – Present
Research Intern <ul style="list-style-type: none">• Studied adsorption rates of the atmospheric gas, Pinene, onto dust and sand samples through infrared spectroscopy under varying humidity and temperature conditions. Simulated molecules with Gaussian and analyzed data with IGOR Pro.	Drew University	May 2017 – Aug 2017

SKILLS

- Statistical analysis, simulation, and mathematical modeling projects (jessemurray.com)
- Python, R, SQL, MATLAB, C, HTML
- Expertise in NumPy, SciPy, Pandas, Sklearn, Matplotlib, Seaborn libraries
- Calculus-based statistics, probability, multivariable calculus, linear algebra, differential equations
- Cello, piano, music theory, perfect pitch composition

ADDITIONAL EXPERIENCE

University Tutor <ul style="list-style-type: none">• Tutored undergraduate students in physics I and II, calculus I, II and III, pre-calculus, statistics, astronomy, biology, chemistry, organic chemistry. Led drop-ins for math-related courses, explained problems to large groups of students.	Drew University	Jan 2017 – Jan 2020
President of Math Club <ul style="list-style-type: none">• Completely revamped the club, put up posters around the school of intriguing math problems and began weekly meetings to solve those problems and lead discussions. Created a professor talk series in which quantitative professors give math-related lectures. Redesigned the Constitution and instituted ranked-choice voting.	Drew University	Jan 2019 – Jan 2020
Research and Teaching Assistant <ul style="list-style-type: none">• Helped students at the New Jersey Governor's School in the Sciences complete a project about implementing machine learning with iRobot hardware for human detection. Graded and tutored students in special relativity class.	Drew University	Jul 2019 – Aug 2019
Emergency Department Intern <ul style="list-style-type: none">• Assisted medical staff with patient intake and evaluation.	Morristown Medical Center	Sep 2018 – Dec 2018

AWARDS, SCHOLARSHIPS, HONORS

- **Arnold S. Boxer Memorial Prize in Physics:** Awarded in Spring 2019 from the Drew University Physics Department
- **Sigma Pi Sigma:** Inducted in Spring 2019

- **Phi Beta Kappa:** Inducted in Spring 2018
- **Weddell Family Scholarship:** Awarded from Drew University Physics Department in Spring 2018
- **John F. Ollom Prize in Physics:** Awarded from Drew University Physics Department in Spring 2017
- **Dean's Transfer Scholarship:** Awarded from Drew University in Fall 2016

REFERENCES

- **Research advisor:** Minjoon Kouh, Ph.D., mkouh@drew.edu
- **University tutoring center director:** Nora Boyer M.S., nboyer@drew.edu