Projects website: jessemurray.com   **Jesse Murray**   (917) 225-5943
Email: jmurray@drew.edu

Education

Drew University, Madison, NJ   Aug 2016 – present
- Physics major, Mathematics minor (GPA 4.00)
- GRE: 169/170 Quantitative, 165/170 Verbal, 5/6 Analytical Writing

The Juilliard School, New York, NY   Aug 2015 – May 2016
- Cello Program

Research Experience

Drew University, Madison, NJ
- Research Intern advised by Dr. Minjoon Kouh, studying anagram problem-solving through eye-tracking data with Tobii studio software. Designed and ran a highly stimulus-manipulated experiment on 29 participants in order to obtain accurate letter sequence data. Used pandas to clean, prepare, and analyze the data involving 1.8 million rows and 38 columns, and applied machine learning techniques. Leading a research team of two other college students and three local high school students. Discovered statistically significant results about the gradual formation of solution knowledge. Presentation at the University of Scranton Brain and Behavior Conference on March 7th. May 2019 – present
- Independently developed a statistical model of normal population distributions reproducing with regression towards the mean. The model was based on the linear regression equation of polygenic inheritance. The model was highly predictive of intergenerational education and income movement between quintiles, (r^2 of 0.92 and 0.93). Working with Dr. Minjoon Kouh on editing a paper for journal submission. Dec 2019 – present
- Research Assistant to Dr. Ryan Hinrichs. Studied adsorption rates of the atmospheric gas, Pinene, onto dust and sand samples through infrared spectroscopy under varying humidity and temperature conditions. Worked with Gaussian and analyzed results with IGOR Pro. May 2017 – Aug 2017

Work Experience

Drew University, Madison, NJ
- Research assistant for machine learning project, teaching assistant for special relativity class, and counselor at New Jersey Governor's School in the Sciences. Helped students complete project about implementing machine learning with iRobot hardware for human detection, graded special relativity homework and tutored students. Jul 2019 – Aug 2019
- University Tutor for the Center for Academic Excellence at Drew University. Tutored 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. Jan 2017 – Jan 2020
- Private Tutor for high school and college students. Tutoring physics, calculus, pre-calculus, and chemistry. Jan 2017 – present

Additional Experience

Drew University, Madison, NJ
- President of Math Club. Completely redesigned the club, put up posters around the school of math problems and began weekly meetings to solve those problems and lead discussions. Created a professor

talk series in which – three times a semester – a quantitative professor gives a math-related talk. Redesigned the Constitution and election process for a new board. Jan 2019 – Jan 2020

Morristown Medical Center, Morristown, NJ

- Intern, Emergency Department. Assisted medical staff with patient intake and evaluation. Sep 2018 – Dec 2018

Skills

- Completed numerous math, Python, and statistics projects. (jessemurray.com)
- Fluent in Python and libraries including NumPy, SciPy, Pandas, Sklearn, and Matplotlib. Also fluent in R and have working knowledge of MATLAB, C, and HTML.
- Use calculus, differential equations, linear algebra, probability, and statistics extensively.
- Cello, piano, music theory, perfect pitch, and composition.

Awards, Scholarships, Honors Societies

- Arnold S. Boxer Memorial Prize in Physics (Spring 2019) Drew University Physics Department
- Sigma Pi Sigma: Inducted Spring 2019
- Phi Beta Kappa: Inducted Spring 2018
- Weddell Family Scholarship (Spring 2018) Drew University Physics Department
- John F. Ollom Prize in Physics (Spring 2017) Drew University Physics Department
- Dean's Transfer Scholarship (Fall 2016) Drew University

References

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