

Jonathan Harris

[jjh88@bu.edu](mailto:jjh88@bu.edu)

<https://github.com/Jharris888>

774-274-7680

### Education

- **Boston University** (Senior)

College of Arts and Sciences, Chemistry Major, 3.93 GPA

Chemistry Department (617-353-2500)

- **Cardinal Spellman High School**, 2013-2017

738 Court Street, Brockton, MA 02302 (508-583-6875)

Valedictorian, Class of 2017

### Awards and Funding

- **Cardinal Medeiros Scholarship** (merit based 4-year full tuition scholarship to BU for parochial high school graduates): received May 2017
- **UROP Riemen Prize** (Chemistry Research): May 2020
- **UROP funding**: [Summer 2019, Fall 2019, Spring 2020, Summer 2020]
- **Mason Award** (Chemistry GPA): May 2020
- **Mason Award** (Chemistry GPA): May 2019

Research Experience: Since 2019 I have been working with Professor John Straub ([straub@bu.edu](mailto:straub@bu.edu)) in the Chemistry Department at Boston University. His work uses computational methods to solve theoretical chemistry and biophysics problems.

- Fall 2020: paid researcher (10 hours/week)
- Summer 2020: UROP Riemen Prize researcher (40 hours/week)
- Spring 2020: UROP researcher (10 hours/week)
- Fall 2019: UROP researcher (10 hours/week)
- Summer 2019: UROP researcher (40 hours/week)
- Spring 2019: paid researcher (10 hours/week)
- Fall 2018: Straub group initiate

Project: Since 2019, I have been working independently on a computational chemistry research project which is centered on micelle self-assembly simulations. Since Summer 2020 I have been completing a manuscript of the results of the simulations, which focuses on finite-size effects of micellization. The technical aspects of the project include characterizing finite-size effects, comparing simulation data to experimental data through SANS spectra, and comparing coarse-grained and all atom representations.

Skills: Over the past two years of working on my computational chemistry project, I have learned about and implemented the following:

- Python (MDAnalysis, scipy, numpy, matplotlib.pyplot)
- GROMACS
- CHARMM and MARTINI force fields

Relevant Course Work

Mathematical Methods for Chemists

Methods for Theoretical Physics

Physical Chemistry Laboratory

Physics 1 (classical mechanics)

Physics 2 (electricity and magnetism)

Physical Chemistry 1 (Quantum mechanics)

Physical Chemistry 2 (Statistical mechanics)

Statistics

Organic Chemistry 1

Organics Chemistry 2

Cell Biology

Biochemistry

Algorithms (*in progress*)

Computational Chemistry (*in progress*)