

# Michael Smith

14 Courter Ave, Wayne, NJ 07470 \* (973) 409-1521 \* [michael.josmith21@gmail.com](mailto:michael.josmith21@gmail.com)  
Professional Website: [mjosmith.github.io](https://mjosmith.github.io) Research Website: [condorarraytelescope.org](https://condorarraytelescope.org)

## EDUCATION

**Stony Brook University**, Stony Brook, NY

May 2021

*Bachelor of Science in Physics and Astronomy & Planetary Science*

*Major GPA in Courses Above 200 Level:*

**1st Major GPA (Physics):** 3.80 /4.0

**2nd Major GPA (Astronomy):** 3.94 /4.0

## RESEARCH AND TEACHING EXPERIENCE

**Astronomy Undergraduate Research**, Stony Brook University

Nov. 2019-Present

*Condor Array Telescope, Dr. Kenneth Lanzetta*

- Developed code to optimize the characterization of the PSF over large angles to study low-surface-brightness outer regions of the Milky Way, LMC, SMC and distant galaxies. Model spread of starlight to study contribution of light to a given point in the field.
- Developed code to simulate images of a selected field of the sky to push through our data analysis pipeline in preparation to deploy the array telescope to Chile.
- Working towards placing constraints on the number of White Dwarves that contain transiting exoplanets.
- Refurbished a computer cluster and replaced dated or broken parts for use by the telescope for various purposes as well as, setting up operating systems and re-establishing a network for the cluster.

**Paid College Intro-Level Physics Tutor**

Aug. 2020 - Present

- Regularly scheduled lessons (6-8) hours a week with a client for their college intro physics sequence
- Prepare lessons and assigned supplemental practice problems
- Provide the student with additional materials outside of scheduled lessons

**Undergraduate Teaching Assistant**, Stony Brook University

Aug. 2019 - May 2020

- Undergraduate TA for a 200 level Astrophysics Course
- Learned critical adaptation skills as an instructor in the shift to online learning due to COVID-19
- Held weekly office hours to assist with homework problems and exam review
- Offered a group lesson to students in preparation for the final exam

**High School Level Physics and Math Tutor**

Nov. 2019 - May 2020

- Assist with difficult topics and supplied supplementary lessons
- Provided additional resources including online videos and extra practice

## PUBLICATION IN PREPARATION

“An Optimal Method of Determining the Point Spread Function at Large Angles”

Dec. 2020

(Nearing completion for submission)

## HONORS AND AWARDS

Feb. 2020

Sigma Pi Sigma National Physics Honor Society Member

Fall 2017 - Present

Dean's List

Fall 2017

Stony Brook Campus Scholarship (\$26,000 for four years)

Spring 2017

NJ Passaic County Board of Education Scholarship

## PRESENTATIONS

- May 2020 “American Museum of Natural History Astronomy Seminar” Condor Array Telescope research project was presented along with news of developments and future plans.
- May 2020 “URECA Celebration: Undergraduate Symposium” Poster presentation of compiled software used in the development of Condor Array Telescope and PSF optimization.

## RELEVANT COURSES (ELECTIVES NOT FOR MAJOR CREDIT)

- Senior Tutorial in Advanced Computational Physics (PHY 447 Spring 21’)
- Nuclear and Particle Physics (PHY 431 Spring 21’)
- Relativity (PHY 408 Spring 21’)
- Advanced Quantum Physics (PHY 405 Fall 20’)
- Electromagnetic Theory II (PHY 302 Spring 20’)

## WORK EXPERIENCE

Office Assistant, Stony Brook University, NY — May. 2018 - Present

- Maintain and manage daily office tasks for a campus residences office.
- Personal assistant to the Area Director during the Residence Hall Director job recruitment season
- Trained and lead new employees through operations of the office and provided feedback on performance

Brand Representative, Abercrombie & Fitch., NY — Feb. 2019 - Present

- Maintain and manage the store and assist customers.
- Engage with customers and build communication skills as a retail worker
- Trained and lead new employees through operations of the store and provide feedback on performance

## LEADERSHIP ROLES AND ACTIVITIES

**President of Residential Hall Council**, Stony Brook NY

Sep. 2020 - Present

- Chairs and preside over all Executive Board meetings, an elected position
- Manage a yearly budget, organize, and plan programs and activities for residential students
- Provide a forum for the free interchange of ideas, problems, questions, and solutions within the building
- Attend Leadership Training

**Vice President of Residential Hall Council**, Stony Brook NY

Sep. 2017 - May 2018

- Chairs and preside over meetings with the general body of residential students, an elected position
- Attend leadership training and follow up with team members delegated tasks

**Society of Physics Students**

Spring 2019 - Present

**Astronomy Club**

Spring 2019 - Present

**Stony Brook University Marching Band**

Aug. 2017 - Sep2018

## SKILLS

**Programming Languages** (in order of experience): Python, Fortran, Java, MATLAB, C++, IDL

**Applications and Packages:** LaTeX, Github, Gnuplot, ds9, Wolfram Mathematica, Microsoft Excel, Microsoft Office, NumPy, AstroPy

**Operating Systems:** Linux, Mac OS, Windows

**Observing Equipment:** Mt. Stony Brook 14-inch telescope, Condor Array Telescope, CCD cameras,