

Michael Smith

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Professional Website: mjosmith.github.io Research Website: condorarraytelescope.org

EDUCATION

Stony Brook University, Stony Brook, NY

May 2021

Bachelor of Science in Physics and Astronomy & Planetary Science
(honors degree in each major expected, not yet conferred)

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,