

# ALEXANDER A. MASSOUD

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## EDUCATION

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**B.A., Physics**, *Summa cum Laude*, Ithaca College August 2016 - May 2020  
*Minors in English and Mathematics* Overall GPA: 3.95/4.0  
Thesis Title: ‘Analysis and Computer Modeling of  $H_2$  Emission from the SMC’

## PROFICIENCIES

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<b>Computer Languages</b>	Python ( <i>Matplotlib</i> , <i>NumPy</i> , <i>Astropy</i> , <i>specutils</i> ), IDL
<b>Software &amp; Tools</b>	LaTeX, PostgreSQL, SExtractor, Cloudy, Spextool

## RESEARCH EXPERIENCE

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**Undergraduate Researcher** January 2017 - Present  
*Ithaca College*

- **Processed and analyzed spectra** obtained with a professional research telescope.
- **Wrote Python routines** to derive physical results from research-telescope data.
- **Completed Senior Thesis** to communicate work with academic peers.

**NSF REU Researcher** May - August 2019  
*Maria Mitchell Association, Nantucket*

- **Presented research progress** in weekly meetings with peers and professional mentor.
- **Led outreach** at twice weekly observation nights for community members.
- **Presented poster at professional conference** to communicate research-results.

## TEACHING EXPERIENCE

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Spring 2020	<b>Teaching Assistant</b> , Ithaca College <i>Stars, Galaxies, and the Universe (Astronomy, algebra-based)</i>
Fall 2019	<b>Teaching Assistant</b> , Ithaca College <i>Solar System Astronomy (Astronomy, algebra-based)</i>
Spring 2019	<b>Teaching Assistant</b> , Ithaca College <i>Solar System Astronomy (Astronomy, algebra-based)</i>
Fall 2018	<b>Teaching Assistant and Tutor</b> , Ithaca College <i>Stars, Galaxies, and the Universe (Astronomy, algebra-based)</i> <b>Tutor</b> , Ithaca College <i>Physics Peer-Led Group Learning Sessions (PLuGs)</i>
Fall 2017	<b>Teaching Assistant</b> , Ithaca College <i>Physics of Human Movement (Mechanics, algebra-based)</i>

## OTHER EXPERIENCE

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**NSF GRFP Proposal Writing** 2020  
*The University of Denver*

- **Wrote personal and research statement** for competitive federal grant.

**Astronomy Club Founder and Vice-President** Fall 2019 and Spring 2020  
*Ithaca College*

- **Founded club** to increase student engagement with on-campus observatory.
- **Organized lectures** on astronomy-topics for college students.

**ALMA Cycle 5 Proposal Writing** 2018  
*Ithaca College*

- **Wrote scientific and technical proposal** for observation time at research-telescope.

## RELEVANT COURSES

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### Advanced Physics Courses

Classical Mechanics  
 Atomic & Molecular Physics  
 Electricity and Magnetism  
 Math Methods of Physics

### Other Relevant Courses

Senior Thesis  
 Probability  
 Linear Algebra  
 Calculus I-IV

## PRESENTATIONS

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**Massoud, A. A.**, and L. King. *Identifying Strong Lensing Images in the Unusual Merging Cluster Abell 2146*. Presented at the 235th American Astronomical Society (AAS) conference (poster presentation).

## GRANTS AND AWARDED FUNDS

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**Travel Authorization**, 01/19

Awarded by Ithaca College to fund travel to the 235th AAS conference.

Award amount: **\$1,779.02**

## HONORS AND AWARDS

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Spring 2020	<b>Outstanding Teaching Assistant Award</b> , Ithaca College
Fall 2019	<b>Ramanujan Award in Mathematics</b> , Ithaca College
Summer 2019	<b>NSF REU Internship</b> , Maria Mitchell Association, Nantucket
Summer 2018	<b>Summer Scholars Program</b> , Ithaca College
Spring 2018	<b>Outstanding Teaching Assistant Award</b> , Ithaca College
Fall 2017	<b>Newton Award in Mathematics</b> , Ithaca College
	<b>The Oracle Honor Society</b> , Ithaca College
2016-2020	<b>President's Scholarship</b> , Ithaca College
	<b>Dean's List</b> , Ithaca College (Every semester)

## PROFESSIONAL AFFILIATIONS

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*Phi Kappa Phi* (National honor society), *Sigma Pi Sigma* (Physics honors society), *Sigma Tau Delta* (English honors society), *Sigma Xi* (Scientific Research Honor Society), American Astronomical Society

## PUBLICATIONS IN STUDENT MAGAZINES

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**Massoud, Alexander 2020**, “Deriving,” poem accepted for publication in *Rainy Day*, a Cornell University literary magazine.

**Massoud, Alexander 2020**, “Spoken Swarm,” poem accepted for publication in *Zoetic*, an Ithaca College *Sigma Tau Delta* magazine.

**Massoud, Alexander 2019**, “Breed Registry,” poem published in *Stillwater Magazine*, an Ithaca College art and literary magazine.

**Massoud, Alexander 2018**, “Water, Water Everywhere: Form in the black maria,” published on website for *Stillwater Magazine*.