

Alex Michael Garcia

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Education

University of Florida

Aug 2021 – May 2023

Master's of Science in Astronomy, Advisor: Paul Torrey

University of Illinois

Aug 2017 – May 2021

Bachelor's of Science in Engineering Physics - *Honors*

Bachelor's of Science in Astronomy - *Distinction*

Research Experience

Graduate Researcher

May 2021 – Present

University of Florida - Advisor: Paul Torrey

Gainesville, FL

- Utilize high-performance computing tool, [HiPer Gator](#), to analyze data of Illustris TNG simulations.
- Present bi-weekly updates to the research group comprised of several experienced researchers from many diverse backgrounds.
- One first-authored paper in progress.

Undergraduate Research Assistant

Feb 2021 – May 2021

University of Illinois - Advisor: Yue Shen

Urbana, IL

Undergraduate Research Assistant

Aug 2020 – May 2021

University of Illinois - Advisor: Bryan Dunne

Urbana, IL

Teaching Experience

Teaching Assistant

Aug 2021 – Present

University of Florida Astronomy Department

Gainesville, FL

Visual Instructor

Aug 2021 – Present

F.W. Buchholz High School Marching Band

Gainesville, FL

- Assisted on the field teaching students how to perfect and perform an eight-minute field show. Included teaching management of simultaneous demand and awareness.
- Worked within a group of staff members on lesson plans and communicated on how to most effectively budget and allocate time to improving the overall product.

Course Instructor

Summer 2021

qBraid – QuBes Course

Remote

- Co-hosted 90-minute, weekly lectures on introductory Quantum Computing. Course intended for high school-aged students interested in pursuing STEM education over the summer.
- Collaborated with co-instructor on the best methods of delivery and presentation of the materials.
- Maintained a course webpage for the students to reference, publishing updates on a weekly basis.

Tutor

Aug 2018 – May 2021

Center for Academic Resources in Engineering (CARE) – UIUC

Urbana, IL

- Guided students towards success in various homework assignments in a number of different disciplines. Subjects included introductory mechanics, electricity & magnetism, quantum mechanics, thermodynamics, calculus, intro to python, differential equations, and linear algebra.
- Planned and led small group presentations for specific courses and present to students in order to help them succeed on exams.
- Analyzed the data on traffic of incoming students with python and created LaTeX reports of monthly attendance, broken up into several different categories.
- Created and maintained LaTeX worksheets for peer-led exam review sessions in several math and physics courses.

Visual Instructor

Aug 2018 – Aug 2021

Lincoln-Way Marching Band (LWMB)

Frankfort, IL

- Assisted on the field teaching students how to perfect and perform an eight-minute field show. Included teaching management of simultaneous demand and awareness.
- Worked within a group of staff members on lesson plans and communicated on how to most effectively budget and allocate time to improving the overall product.

Work Experience

Registration Assistant

Summer 2020, Summer 2021

Grainger College of Engineering

Urbana, IL (Remote)

- Guide incoming undergraduate students on how to utilize registration interface as well as navigating course registration mandates.
- Interface with a team digitally and work together to standardize an approach to helping students with their issues registering.

Grader

Aug 2020 – May 2021

University of Illinois Astronomy Department

Urbana, IL

Course	Semester	Professor
Astr 100 - <i>Introduction to Astronomy</i>	Fall 2020	Amanda Winans
Astr 150 - <i>Killer Skies: Astro-Disasters</i>	Fall 2020	Bryan Dunne
Astr 330 - <i>Extraterrestrial Life</i>	Winter 2021	Leslie Looney
Astr 330 - <i>Extraterrestrial Life</i>	Spring 2021	Xin Liu

- Read over student's submissions of astrophysical information and determined where to assign and detract points based on a rubric and my own understanding of astrophysics.
- Communicated with the professor on due dates and finish work promptly, accurately and with comments for students on how to improve their submission.

Lecture Viewing Assistant

Jan 2021 – Mar 2021

Grainger College of Engineering

Urbana, IL

- Hosted sessions for students to come to campus and watch their live zoom lectures as a group.
- Created events on the college's website as well as analyzed and interpreted data on attendance of these sessions.

Technical Skills

Fluent: Python, L^AT_EX (including Tikz), Microsoft Office

Literate: R, HTML, CSS, Origin Pro, Java/JavaScript

Honors and Awards

University of Illinois Tutor of the Year Honorable Mention	Spring 2021
University of Illinois Tutor of the Year Finalist	Spring 2021
Dean's List, College of Liberal Arts and Sciences – UIUC	Fall 2020
Dean's List, Grainger College of Engineering – UIUC	Spring 2018, 2019
Access and Achievement Scholar – UIUC	Fall 2017 – Spring 2021
Eagle Scout, Boy Scouts of America	April 2015

Activities

Bluecoats Drum and Bugle Corps	Summer 2019, 2020, 2021
Madison Scouts Drum and Bugle Corps	Summer 2017, 2018

References

Dana Tempel

Assistant Director - Center for Academic Resources in Engineering
Email: tempel1@illinois.edu

Prof. Paul Torrey

Assistant Professor of Astronomy - University of Florida
Email: paul.torrey@ufl.edu

Kenton Brace

Visual Caption Head - Lincoln-Way Marching Band
Email: kbrace@homerschools.org

Prof. Bryan Dunne

Teaching Assistant Professor - University of Illinois
Email: bdunne@illinois.edu