Renato R. Mazzei

mazzei@virginia.edu ❖ (571) 271-1221 ❖ Charlottesville, VA

WORK EXPERIENCE

University of Virginia **Aug. 2017 – Present**

Masters & PhD Work in Astronomy *Charlottesville, VA*

- Performed 3-dimensional simulations of star forming environments using state-of-the-art magneto-hydrodynamics and radiative transfer codes.
- Developed a pipeline of python tools to analyze the simulations and derive tangible links to observational data.
- Published three research papers in premiere astronomy journals as the main author. Also presented findings at several meetings, including internationally attended, field-wide conferences (totals: 6 talks, 2 posters).
- Participated extensively in community outreach. Organized and led elementary school clubs and led a team that collected and analyzed student and volunteer data to assess the impact of our organization.
- Served a 2-year term on our department's DEI committee. My tasks included formulating new, equity-focused conflict resolution procedures, as well as co-founding a department-wide DEI-centered book club.

Instructor | Jul. 2020 – Aug. 2020 (4-week summer term)

- Taught an undergraduate astronomy course as the "instructor of record."
- Developed/delivered over 40 hours of lecture material; wrote and graded homework assignments and exams.

Cornell University **Jun. 2016 – Aug. 2016**

Research Internship in Astronomy *Ithaca, NY*

- Scraped archival data for a set of dusty star-forming galaxies with newly constrained star formation rates.
- Computed the luminosity of each galaxy by performing multi-wavelength fitting in python & Fortran.
- Plotted the results on the "Kennicutt-Schmitt" relation to compare our new sample with existing data.

University of Virginia **Sep. 2014 – May. 2017**

Undergraduate Research in Astronomy *Charlottesville, VA*

- While an undergraduate, supplemented coursework with independent research on a variety of projects related to X-ray astronomy and galaxy clusters (supervised by Prof. Craig Sarazin).

EDUCATION

University of Virginia

PhD, Astronomy | May 2024 *Charlottesville, VA*

- Thesis: The Role of Magnetic Fields in Star Formation, from Cloud to Disk Scales
  - Supervised by Prof. Zhi-Yun Li and Prof. L. Ilsedore Cleeves

M.S., Astronomy | May 2018 *Charlottesville, VA*

- 4/4 GPA

B.S., Astronomy-Physics | May 2017 *Charlottesville, VA*

- *With highest distinction*, 3.92/4 GPA
- Echols Scholar; College Science Scholar
- 2016 Vyssotsky Prize (most outstanding 3rd year astronomy undergraduate at UVA)
- 2017 Limber Prize (most outstanding 4th year astronomy undergraduate at UVA)

SKILLS & INTERESTS

- **Skills:** data analysis; programming (main language: python); setting up and running computer simulations (language: C++); cleaning and analyzing multi-dimensional data; visualizing quantitative data with professional plotting software; scientific writing, communication, and outreach; basic HTML/CSS
- **Interests:** running; rock climbing; hiking; watching the sunset; music; music production; singing; digital art