

# Niloofer Sharei

[GitHub](https://github.com/NilooferSharei) [LinkedIn](https://linkedin.com/in/niloofer-sharei) [Email](mailto:nshar042@ucr.edu)

## RESEARCH INTERESTS

**Observational Galaxy Formation and Evolution**, First galaxies, Star-forming clumps .

## EDUCATION

<b>University of California, Riverside</b>	Sep 2022-Present
<i>PhD in physics and astronomy</i>	Riverside, CA
<b>Alzahra University</b>	
<i>Master of Science in theoretical physics</i>	Tehran, Iran
<b>Sharif University of Technology</b>	
<i>Bachelor of Science in Engineering</i>	Tehran, Iran

## SKILLS

**Data Handling:** Python for data analysis, error analysis, astronomical image processing (aperture photometry, profile-fitting photometry), Bagpipes, plotting (NumPy, scipy, astropy, matplotlib, photutils), SAOImageDS9, TOPCAT  
**Programming Languages:** Python, R, Matlab, Pascal, L<sup>A</sup>T<sub>E</sub>X  
**Tools:** Wolfram Mathematica, Maple, Git/GitHub, VS Code, Autodesk Maya, AutoCAD, SOLIDWORK  
**Languages:** English, German, Persian

## RESEARCH EXPERIENCE

### Doctoral research | University of California, Riverside

- Investigating the role of clumps in star formation rates of galaxies in Redshift between 0.5 and 3 using HST imaging
- Advisors: Dr. Alexander De La Vega, Prof. Brian Siana

### Master's research | Alzahra University

- Stellar cluster photometry using archival HST data; CMD construction.
- Advisor: Dr. Ahmad Shariati

### Selected Projects | University of California, Riverside/Alzahra University

- Designed and implemented an N-body simulation code as part of a computational astrophysics course
- Developed and implemented computational algorithms to model quantum wave behavior and interaction with barriers in quantum mechanics course
- Spearheaded a project in the advanced statistical mechanics course, focusing on Monte Carlo simulation techniques implemented in mathematica

## PUBLICATIONS

- **Niloofer Sharei**, A. De la Vega, Brian Siana et al. "Improving SED fitting assumptions in clumps at redshifts between 0.5-3", in preparation
- WV Jacobson-Galan, L Dessart, R Margutti, et al.(including **Niloofer Sharei**) "SN 2023ixf in Messier 101: Photo-ionization of Dense, Close-in Circumstellar Material in a Nearby Type II Supernova", The Astrophysical Journal letter, Volume 954, Number 2
- A. De La Vega et al. (including **Niloofer Sharei**), "The Fraction of Clumpy Galaxies in JWST Surveys over redshift 2-12," Submitted to The Astrophysical Journal.

# OBSERVING EXPERIENCE

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Lick Observatory | Mount Hamilton, California, US

May 2023 / May 2024

- Observational Astronomy Workshop
- Used Shane (3m) and Nickel (1m) telescopes for 8 nights

# TEACHING EXPERIENCE

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**Teaching Assistant** | University of California, Riverside

Jan 2023 – Present

Laboratory sections for general physics for engineering and pre-medical undergraduates

**Physics Teacher** | Tutor

2018 – 2022

Collaborated one-on-one with high school students, providing personalized instruction and guidance in physics

# WORKSHOPS AND TRAINING

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**AstroTech Summer School on Astronomical Instrumentation**

July 2024

University of California, Berkeley

Berkeley, CA

- Selected for a prestigious program focused on building astronomical instruments.
- Hands-on experience in astronomy and optics.

**FAR-ANSEF ICTP Summer School**

Aug 2019

Yerevan, Armenia

- Gained in-depth knowledge through lectures on theoretical physics and mathematical modeling.

# AWARDS & HONORS

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- Dean's Distinguished fellowship, University of California, Riverside
- Tuition waiving scholarship for masters in Physics at Alzahra University
- Tuition waiving scholarship at Sharif University of Technology
- Ranked within the top 7 percent among 6500 Physics applicants in Nation-wide M.Sc University entrance exam
- Ranked within the top 0.5 percent among 274000 applicants in Nation-wide B.Sc University entrance exam in mathematics and physics branch, Iran
- Ranked 2nd among the province-wide competitors in High School Physics Laboratory Competition, Iran

# OUTREACH & SCIENCE COMMUNICATION

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- Author and Editor in Astrobites (Winter 2025- Present)
- Founder and president of AURORA : Astronomy Union for Reading, Outreach and Research Activities in UCR
- Author of Staryab website – Staryab is a monthly astrophysical literature website in Farsi managed by Iranian astronomers across the world (Winter 2024- Present)
- Served as a judge at the Riverside Unified Science and Engineering Fair. Evaluated and provided constructive feedback on student projects, assessing scientific rigor, innovation, and presentation skills (Jan 2024)
- Collaborated with UCR astroclub to facilitate several telescope nights aimed at introducing astronomy to children and public (Jan 2023- Present)
- Participated in organizing and conducting astronomy education activities for children aged 6-10. Designed engaging sessions, including hands-on projects such as creating a Gravity Simulator (Fall 2023)