Sina Taamoli

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Education

- **University of California, Riverside** — Riverside, CA
  - Ph.D. in Physics-Observational Astronomy (GPA: 3.95): *Sep 2017 - Jul 2019*
    Applications of Machine Learning in Astronomy - Large Scale Structures and Galaxy Evolution
- **Sharif University of Technology** — Tehran, Iran
  - M.Sc. in Physics-Cosmology: *Statistics of Initial Density Field Peaks* *Sep 2017 - Jul 2019*
  - B.Sc. Dual major in Mechanical Engineering/Physics: *Thesis: Social Robots* *Sep 2012 - Jul 2017*

Interests

- Machine Learning
- Deep Learning
- Astronomical Image Analysis

Experience

- **University of California, Riverside** *(2020-present)* — Riverside, CA
  - Research: Environmental Dependence of Galaxy Properties, Filamentary structures in the Cosmic Web, SED fitting, Large Scale Structures, Astronomical Image Processing, Photometry
  - Teaching: Introduction Data Science, Machine Learning, Data Visualization and Computer Graphics.
- **Observing Experience** *(2020-present)* — Waimea, HI
  - **Keck:** +20 nights with MOSFIRE/DEIMOS: Observation Design, Observing Runs, Data Reduction.
  - **JWST:** Data Reduction
- **Sharif University of Technology** *(2012-2019)* — Tehran, Iran
  - Research: Excursion Set Approach: A tool to study statistics of peaks of the initial density field in the Universe
  - Teaching: Advanced Cosmology, Stochastic Processes, Applications of Machine Learning in Physics.
- **Institute for Research in Fundamental Sciences (IPM)** *(Feb-July 2019)* — Tehran, Iran
  - Internship at Iran National Observatory (INO), Engineering Department: Aberration Analysis on the CCD images

Collaborations

- Hawaii Two-0 Survey — DAWN Survey: Keck observing runs, Data Reduction, Catalog making.
- Euclid Consortium: Photometry, SED fitting, Catalog making for Early Release Observations (ERO)
- Beasts in the Bubbles: Data Reduction, Morphology analysis of JWST observations of 5 massive $z \sim 8$ galaxies.

Skills

Programming: Python, R, C++, SQL, JavaScript, Bash
Astronomical Tools: Pypeit, DS9/ginga, Keck-MOSFIRE Reduction Pipeline, THE FARMER, Bagpipes, EAZY, *Galfit*
Softwares & Platforms: GitHub, Solid Works, Tableau, Origin, TOPCAT, MATLAB, Blender (3D modeling)

Publications (Google Scholar)

- **Large Scale Structures in COSMOS2020: Evolution of Star Formation Activity in Different Environments at** $0.4 < z < 4$: (arXiv: 2312.10222)
- **The UV luminosity function at** $0.6 < z < 1$ **from UVCANDELS**: (arXiv: 2311.15664)
- **Structure of cosmic web in non-linear regime: the nearest neighbour and spherical contact distributions**: MNRAS, (2022) - arXiv: 2106.13216
- **Cosmological Filaments in the light of Excursion Set of Saddle Points**: MNRAS (2019) - arXiv: 1811.12398

Presentations and Talks

COSMOS meeting: LSS in COSMSO2020 *(May 2023)* — Rochester (RIT), NY

Outreach

UCR-STEM Summer Camp on Data Science (*Summer 2023*) — Univ. of California Riverside, CA