

Fernando Rivas

 frivasa.github.io  rivasa.aguilera@gmail.com  frivasa  +56 936 895 431  0000-0002-6762-6070

KEY QUALIFICATIONS

- Scientist with a background in both applied and theoretical astrophysics.
- Proficient in computational modeling and data analysis pipelines.
- Skilled in high performance computing frameworks and operation.

EDUCATION

- Phd in Physics at University of Tennessee - Knoxville, TN Granted 2022
- BSc in Astronomy at *University of Chile*, Chile Granted 2012

EXPERIENCE

- Freelance Worker *Jul 2024 - Present*
dataannotation.tech
 - Performed multi-mode AI model A/B comparisons on datasets and proposed problems.
 - Competencies: Python, C, C++, SQL, data management and analysis; Prompt engineering.
- Type Ia Supernova Modelling *Aug 2017 - Dec 2023*
Oak Ridge National Laboratory, Oak Ridge, TN
 - Studies of thermonuclear transients through large scale simulations.
 - Competencies: HPC-code development; OpenMP, MPI; batch and software dependency systems, performance measurement and modeling, large-scale data handling and analysis, three-dimensional data visualization.
 - Advisor: Bronson Messer (ORNL/UTK)
- Millimeter Point Source Characterization *Mar 2013 - Aug 2015*
Pont. Universidad Católica de Chile, Santiago, Chile
 - Source catalog construction using radio-telescope data in 3 observing bands.
 - Competencies: database management (SQL), measurement and fitting of time-domain data (Markov chain Monte Carlo).
 - Advisor: Rolando Dünner (PUC Chile)
- CO White Dwarf Modeling *Jan 2011 - Feb 2011*
Universidad de Chile, Santiago, Chile
 - Stellar evolution from formation to remnant with MESA (Modules for Experiments in Stellar Astrophysics) code.
 - Competencies: FORTRAN, package management, remote cluster use.
 - Advisor: Francisco Förster (UCHile)

TEACHING & OUTREACH

- Astrophysics seminar: "*Supernovae Ia: Omens of the past. Today's Auguries*"
University of Tennessee - Knoxville 2021
- Astrophysics seminar: "*Type Ia supernovae progenitor systems: The double detonation mechanism*"
University of Tennessee - Knoxville 2019
- Poster: "*Sub-Chandrasekhar type Ia supernovae scenarios with large networks*"
4th Fifty-One Ergs workshop, North Carolina State University 2019
- Graduate Teaching Assistant in Physics & Astronomy
University of Tennessee - Knoxville 2015-2017