

Matthew Portman

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MatthewPortman

Programming Languages

L^AT_EX
Bash
Python
Fortran
MATLAB
OpenMP/MPI/CUDA

Education

- 2017–Pres. Ph.D. Candidate in Computational Science GPA: 3.77
San Diego State University & University of California, Irvine
Relevant Coursework
- Advanced Computational PDE
 - Parallel Computing
 - Machine Learning
 - Optimization
- 2012–2016 B.S. in Physics GPA: 3.65
University of Texas at Dallas

Research Experience

- 2019–Pres. **Research Assistant** under Dr. Wayne Hayes University of California, Irvine
Modeling Spiral Galaxies
- Utilize optimization methods to model galactic light profiles via GALFIT.
 - Develop an algorithm to pipe results from spiral arm detection algorithm, SpARcFiRe, into GALFIT in order to automate galactic structure parameterization.
- 2021–Pres. **Visiting Scholar** under Dr. Antonella Palmese Fermilab
Multi-Messenger Astronomy
- Identify transients from multi-messenger sources using DESI observations and correlate to confidence intervals of gravitational wave localization maps.
- 2021 **Graduate Intern** under Drs. Pete Anninos & Rob Hoffman Lawrence Livermore National Lab
Binary Accretion Simulation
- Simulate hyper-accretion inflow onto the surface of neutron stars from a binary companion using COSMOS++ to predict observational signature.
- 2017–2019 **Research Assistant** under Dr. Fridolin Weber San Diego State University
Neutron Star Simulation
- Simulated hyperdense matter inside Neutron Stars using Fortran.

Work Experience

- 2019–Pres. **Teaching Assistant** University of California, Irvine
Intro to Coding - Python
- Teach and develop interactive coding assignments in Python.
- 2017 **Adjunct Faculty** Collin County Community College
Mathematics Professor

Highlighted Publications and Awards

- 2021–Pres. **LSSTC Data Science Fellow** Northwestern University
Award granted to supplement data science instruction in Astronomy.
- 2021 **URA Visiting Scholar Program/Award** Fermilab
Award granted to perform collaborative research with Fermilab.
- 2019, 2021 **Proceedings: ACCESS Conference** San Diego State University
Poster presentation of research done with Dr. Wayne Hayes.
- 2017–2019 **Graduate S-STEM Fellowship.** San Diego State University
Award granted to provide mentorship and research opportunities.
- 2015 **Research Experience for Undergraduates** Rochester Institute of Technology
Research award granted to perform research under Dr. Benjamin Sargent.