Matthew Portman

Contact

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GitHub:-
github.com/
MatthewPortman

Programming Languages

C++
LaTeX
Bash
Python
Fortran
MATLAB
OpenMP/MPI/CUDA

Education

2017–Pres.	Ph.D. Candidate in Computational Science San Diego State University & University of California, Irvine	GPA: 3.77

Relevant Coursework
- Advanced Computational PDE
- Parallel Computing
- Machine Learning
- Optimization

2012–2016	B.S. in Physics University of Texas at Dallas	GPA: 3.65

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.	**Research Assistant** under Dr. Antonella Palmese	Fermilab, LBL

Multi-Messenger Astronomy
- Identify transients from multi-messenger sources using DESI observations and correlate to confidence intervals of gravitational wave localization maps.

2021, 2022	**Graduate Intern** under Drs. Pete Anninos & Rob Hoffman	LLNL

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.