Matthew Portman

Contact

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GitHub:-
github.com/
MatthewPortman

Programming Languages

C++
LaTeX
Bash
Python
SLURM
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
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

Sept. 2023 — **A Re-Assessment of SpArcFiRe's Performance on Toy Spiral Galaxies** — MNRAS
M. Portman and S. Mesforoush and W. Hayes.

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.