DANIELLE RUTH SKINNER
COMPUTATIONAL ASTROPHYSICIST

SUMMARY

I am a computational astrophysicist completing my Physics PhD at the Georgia Institute of Technology with an anticipated graduation date of May 2023. I am a skilled Python programmer and data analyst looking for a data focused career. I am passionate about diversity and equity efforts and am trained in modern pedagogy to maximize audience learning.

EDUCATION

PhD in Physics | May 2023 | Georgia Tech

Minor: Higher Education

MS in Physics | August 2018 | Georgia Tech

BS in Physics & Astronomy | June 2017 | University of Washington

Double minor: Mathematics & Philosophy

EXPERIENCE

Graduate Research Assistant | Georgia Tech | 2018 - Present

- Executed cosmological simulations on high performance computers to study the effects of neutron star mergers.
- Awarded the FINESST grant for *$135,000* funding my final three years of my Ph.D.

International High Performance Computing Summer School Kobe, Japan | July 2019

- Topics covered: Parallel programming, MPI, OpenMP, HPC and Python, Scientific Visualization, Machine Learning

PROJECTS

Correlation of neutron star merger (NSM) parameters with star formation, Georgia Tech

- Executed and analyzed volumetric time-series forward-modelling simulations on high-performance computers.
- Created data analysis pipelines for over 40 Tb of data to ensure efficient programming.

Generating fitting pipelines for photometric data from JWST, Georgia Tech

- Modeled spectral energy distributions using analytic functions of star and galaxy formation to fit photometric data.
- Collaborated with a team of researchers to create a fitting pipeline and maintained version control via Github.

CONTACT

- daniellerenniks@gmail.com
- 7202737788
- drenniks.github.io
- linkedin.com/in/drenniks

SKILLS

Data analysis | Data visualization | Data reduction | Feature engineering |Qualitative data | Unstructured data | Volumetric data | Public speaking | Technical writing | Statistics | Modern pedagogy

PROGRAMMING

Python | C++ | Yt | Numpy JSON | SciPy | Jupyter | H5py Matplotlib | Git | Linux | HTML | Bash scripting | slurm | LaTeX Mac/Windows

LEADERSHIP

- Co-founder, Physics Allies for Wellness, Georgia Tech
- Mentoring chair, Graduate Association of Physicists
- President, Graduate Association of Physicists
- Diversity, Equity, and Inclusion Committee, School of Physics, Georgia Tech
- Mentored 8 undergraduate and graduate students.

CERTIFICATIONS

- Tech to Teaching Certificate, Georgia Tech
- Associate Certificate, Center for Integration of Research, Teaching and Learning
- Machine Shop Certificate, University of Washington