Yonatan Sklansky | University of Pennsylvania

4th year, major in physics with astrophysics concentration

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Selected Graduate-level Coursework

Cumulative GPA: 3.65 (without 7th semester)   **Grad Courses Only GPA:** 3.68

- PHYS-533   Modern Topics in Cosmology
- PHYS-531   Advanced Quantum Mechanics
- PHYS-516   Electromagnetic Phenomena
- PHYS-505   Cosmology
- PHYS-503   General Relativity
- PHYS-500   Math Methods of Physics

Skills

- Advanced: Python, Julia, and LaTeX
- Moderate: HTML and Java
- Some experience: OCaml and C++
- Used computing clusters through both JupyterLab and SLURM
- Experience with machine learning libraries such as PyTorch
- Astronomical image analysis using SAOImageDS9

Experiences

4th Information Universe Conference- Groningen, Netherlands   June 2022

- Attendee

Research Abroad- University of Groningen/University of Edinburgh   May 2022-present

- Computationally extended 2-dimensional N-body caustic solution to 3 dimensions in python
- Continuing work with Professor Rien van de Weygaert and Dr. Job Feldbrugge on caustic analysis of cosmological simulations
- Developing caustics python package and writing paper on topological features of caustics

10-Week Theoretical Physics Summer Program- Perimeter Institute for Theoretical Physics   May 2022-July 2022

- Took classes on quantum information, path integrals, symmetries, and numerical methods
- Final project on gravitational waves emitted from a triple black hole system

Junior Year Research and Senior Thesis- University of Pennsylvania   May 2021-present

- Studying large scale structure and cosmic void distributions and shapes using persistent homology
- Working with IllustrisTNG-300 simulation in Python and Julia
- Authoring paper with UPenn professor Ravi K. Sheth

Physics Lab Teaching Assistant   September 2022-present

- TA for introductory physics labs in mechanics and electromagnetism

Peer-Led Team-Learning (PLTL) Head   September 2021-present

- Directed and designed experimental classes for students who needed help in introductory physics classes
- The ungraded, voluntary classes attracted over 80 students and allowed them to focus on understanding the material without the pressure of grades

Science Olympiad at UPenn and other universities   December 2019-present

- Wrote 10+ astronomy and circuit lab exams for high school students at all levels of competition each year