

YIXUAN SHAO

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EDUCATION

Stony Brook University

THE UNITED STATES

Expected Graduation: May 2026

STONY BROOK, NY

- Master of Arts in Physics
- GPA: 3.67/4.0
- Related Courses: Classical Electrodynamics, Interstellar Medium, Introduction to Gravitational Lensing
- Awards: Stony Brook Tuition & Fees Scholarship

Stony Brook University

THE UNITED STATES

08/2020-05/2024

STONY BROOK, NY

- Bachelor of Science in Physics/ Astronomy Planetary Sciences
- GPA: 3.77/4.0
- Related Courses: Astronomy, Introduction to Planetary Sciences, Mechanics, Thermodynamics, Kinetic Theory and Statistical Mechanics, Quantum Physics, Cosmology, Galaxy, General Relativity, Electronics and Instrumentation Laboratory, Observational Techniques in Astronomy, Data Analysis, Applied Complex Analysis, Nuclear Physics, Python for Scientific Computing, Calculus, Applied Linear Algebra, Classical Physics, Modern Physics, Waves and Optics, Electromagnetic Theory, Survey of Probability and Statistics, Computation for Physics and Astronomy.

RELATED EXPERIENCE

Strong Lensing Group in Prof. Simon Birrer Group At Stony Brook University

01/2025-Present

Graduate Student Research Member

- Integrated substructure (dark matter subhalos) mass distribution into *Slsim* pipeline to improve realism in strong gravitational lensing simulations.
- Applied Vision Transformer (ViT) models for automated strong lens identification on simulated data, targeting large-scale surveys such as LSST, Roman, and Euclid.
- Conducted comparative analysis of simulation outputs tailored to different survey specifications, evaluating observational effects across instruments.

Condor Array Telescope in Prof. Kenneth Lanzetta Group At Stony Brook University

05/2023-09/2025

Undergraduate Student Research Member

- Generate and process XML files based on Condor Array Telescope's existing observational data via Python.
- Primary and secondary screening of data based on extensive Photometry.
- Connecting filtered pairs of datasets to the online FITS file database, visualization of target stellar coordinates based on FITS files via Python to assist in processing error terms in observational data.
- Further optimize the usability of the resulting data and improve the database to facilitate more effective observations.

Course AST 443 Observational Techniques in Astronomy

10/2023-12/2023

Proposal Writer

- Based on the Be Star Database and StarAlt, select observable targets.
- used Mt.Stony Brook observatory with a 14-inch Meade LX200-ACF telescope, a Mesu-200 German Equatorial Mount, and the DADOS Spectrograph camera to observe the targets.
- Calibrate and analyze the acquired data via Python and DS9 to produce spectrums of each target.

SKILLS

Language: Native in Mandarin, proficient in English

Programming Languages: Fortrun, R, Python, Processing

Tools: Skilled application of Microsoft Azure, Adobe Azure, Command Line, Linux and Ubuntu Systems, etc.