

Vy Luu

Education

Jet Propulsion Laboratory

Nasa Postdoc Fellow

Advisor: [Eric Huff](#)

Pasadena, CA

Expected Sept 2026

Princeton University

Ph.D. Physics Candidate

Advisor: [William Jones](#)

Princeton, NJ

2018-Expected Sept 2026

Columbia University

B.S. in Physic, Cum Laude

Advisor: [Amber Miller](#)

New York, NY

2011-2015

Some Related Research Experience

Princeton University, [SuperBIT](#) Collaboration

2015 - Now

The Super-pressure Balloon-borne NUV-NIR wide-field high-resolution Imaging Telescope to study Dark Matter (SuperBIT), Graduate Research Assistant

Advisor: William Jones

- Member of the alignment and science teams for engineering launch, Palestine Texas 2015 and the science launch, Wanaka 2024
- Calibration and Statistical image analysis of flight images
- Designed a 1.5m Anastigmat three-mirror optics for the next generation GigaBIT
- Detection of Dwarf Galaxies in the SuperBIT dataset using Random Forest.
- Explore other science cases for SuperBIT dataset besides Weak Lensing: UV ISM

Current Project:

- Collaborating with the group to extract weak lensing signals from SuperBIT dataset.
- Developing Data-driven PSF model for SuperBIT combining forward modelling, machine learning techniques and 2023 flight images.

Princeton University, [SPIDER](#) Collaboration

2018 - Now

Searching for the Echoes of Inflation, Graduate Research Assistant

Advisor: Williams Jones

- Member of the system control team on cryogenic, detectors, housekeeping pre- and during the science launch in Antarctica 2023 (SPIDER-II): build, test, characterize various components of the cryostats and pointing system over multiple test runs and flight.

Columbia University, [NuSTAR](#) group

New York, NY

Undergraduate Research Assistant

2014-2015

Advisor/Supervisor: Chuck Hailey

Project/s: Image Analysis for NuSTAR

- Processed data from the Space-borne X-Ray Telescope NuSTAR
- Worked under supervision of scientists on various analysis projects (Spectral Analysis on Galactic Center Molecular Clouds of NuSTAR and XMM-Newton, Galactic Center Point Sources of NuSTAR and CHANDRA, etc...); develop code to automate the analysis process.

Columbia University, Experimental Cosmology Group

New York, NY

Undergraduate Research Assistant

2014-2015

Advisor/Supervisor: Amber Miller

Project/s: Polar Mesospheric Cloud

- Pair-coded with fellow undergrads under supervision of scientists to develop tools for analyzing digital images of the balloon-borne submillimeter telescope **EBEX** for a [published paper](#).
- Expanded the analysis with implementation of various computer vision algorithms which contribute to the successfully funded [NSF proposal](#).

Columbia University, Experimental Cosmology Group

New York, NY

Undergraduate Research Assistant

2013-2015

Advisor/Supervisor: Bradley Johnson, Amber Miller

Project/s: Kinetic Inductance Detector (MKID) Development

- Developed experiments under supervision of scientists on the LeKID detectors to investigate impacts of cosmic rays on the detectors' time series.

Some Publications

Heavily contributed to the development of the instruments and/or analysis of the experiment/project:

- Saha, S. et al. (2026) **Lensing in the Blue III: Weak Lensing Shape-Catalog for 30 Low-Mid redshift Galaxy-Clusters.** *in preparation*
- Shaw, E. C. et al. (2024). **In-flight performance of SPIDER's 280 GHz receivers.** Proceedings of the SPIE, 13102, 04401.
- McCleary, J. E. et al. (2023). **Lensing in the Blue. II. Estimating the sensitivity of stratospheric balloons to weak gravitational lensing.** The Astronomical Journal, 166(3), 134.
- A. Gill et al. (2021). **Optical Night Sky Brightness Measurements from the Stratosphere.** Scientific Reports Nature
- J. Romualdez et al. (2019). **Robust diffraction-limited NIR-to-NUV wide-field imaging from stratospheric balloon-borne platforms – SuperBIT science telescope commissioning flight and performance.** AIP Review of Scientific Instruments.
- Romualdez, L. J. et al. (2016). **The design and development of a high-resolution visible-to-near-UV telescope for balloon-borne astronomy: SuperBIT.** *arXiv e-prints*, arXiv:1608.02502
- K. Mori et al. (2015). **NuSTAR Hard X-Ray Survey of The Galactic Center Region I: Hard X-Ray Morphology and Spectroscopy of the Diffuse Emission.** Astrophysical Journals.
- H. McCarrick et al. (2014), **Horn-Coupled, Commercially-Fabricated Aluminum Lumped-Element Kinetic Inductance Detectors for Millimeter Wavelengths,** Review of Scientific Instruments.

Training

- **2026 IHES Summer School - [Cosmological Correlator](#),** Saclay, France - July 2026
- **Arizona Winter School on Multi-Probe Cosmology in the Roman ST Era,** University of Arizona, Tucson, AZ, USA — Jan 2026
- **Cosmological Surveys and Synergies (COLOURS),** Institut Pascal, Orsay, France — Jun 2025

Skills

- Graduate level Non-physics courses on Statistical Data Analysis, Statistical Methods, Machine Learning and Deep Learning, Stochastic Calculus.
- Python, C++, Data Structures and Algorithms (Problem solving on Leetcode)
- Zemax, Solidwork, etc ...
- Experience with large dataset and computer clusters.

Some Leadership and Awards

- 2026 NASA Postdoctoral Fellowship 2026
- Supervised Three Undergraduate Summer Research Projects, Princeton University 2025
 - Kayla Carmical, Quinn Bluenthal, Christine Miller
- USA Antarctica Service Award 2024
- Professional Development Associate Fellow, Princeton University 2021-2022
- First Year Fellowship, Princeton University 2018
- Dean List, Columbia University 2015
- Hettena Scholarship, Columbia University 2015