

Education

Tufts University | Medford, MA

B.S. in Physics and Mathematics | Minor in French

Graduated in May 2025 | Summa cum laude | GPA: 3.96/4.00

Senior honors thesis: *Cosmological probes derived from arcminute-scale images and kilo-degree-scale surveys* (awarded highest thesis honors)

Research

Dark matter mass profiles of dwarf galaxies using weak galaxy-galaxy lensing.

Leiden Observatory | Leiden, the Netherlands | June - August 2024

Through the highly selective Leiden/ESA Astrophysics Program for Summer Students (LEAPS). Worked on measuring the dark matter mass profiles of dwarf galaxy haloes using weak lensing. Applied machine learning to estimate photometric redshift and stellar masses for galaxies in the Kilo-Degree Survey.

Reduction of JWST MIRI imaging from all filters

Tufts University | May 2024 - June 2024

Reduced JWST MIRI imaging from all filters for use as target acquisition and verification in low resolution spectroscopy. This work was later used to calculate slitloss.

JWST MIRI 5.6 micron number counts and source population. (Sajkov et al., 2024)

Tufts University | Feb 2023 - May 2024

As part of the prestigious Tufts Summer Scholars program, worked on integral galaxy number counts using images from the JWST Mid-Infrared Instrument (MIRI) at 5.6 μm . Reduced MIRI imaging beyond the standard pipeline. Ran Monte Carlo simulations for completeness estimation.

Comparison of machine learning methods in deriving galaxy parameters from photometry

Tufts University | May 2023 - July 2024

Worked on comparing fully connected neural networks (FCNNs) against self-organizing maps (SOMs) in estimating galaxy parameters from a large simulated photometric dataset.

Publications

Sajkov, L. et al., 2024. Halfway to the Peak: The JWST MIRI 5.6 micron number counts and source population. ApJ 977 115.

Young, J. et al. (incl. **Sajkov, L.**), 2023. Halfway to the Peak: Spatially Resolved Star Formation and Kinematics in a $z = 0.54$ Dusty Galaxy with JWST/MIRI. ApJL 958 L5.

Teaching experience

Teaching Assistant

Dept. of Physics and Astronomy | Tufts University | September 2022 - May 2025

Each semester, led laboratory sessions for Intro Physics I or II and for General Physics I or II. Guided group work, assisted students one-on-one, and grade. Was responsible for two sections of 14 students each.

Learning Assistant

Dept. of Physics and Astronomy | Tufts University | January 2023 - May 2023

Led homework facilitation sessions for General Physics II. Assisted 10-30 students per session, twice weekly.

Presentations

Dark matter content of dwarf galaxies using weak lensing	Tufts University Astronomy Seminar September 2024
	Leiden Observatory LEAPS Symposium August 2024
JWST MIRI 5.6 μm number counts	American Astronomical Society (AAS) 245 th meeting <i>iPoster</i> January 2025
	Stanford University Stanford Undergraduate Research Conference <i>Poster</i> April 2024
	Yale University Society of Physics Students Zone 1 Regional Meeting April 2024
	Tufts University Undergraduate Research and Scholarship Symposium April 2024
	Tufts University Summer Scholars Conference August 2023

Community service and outreach

Center for STEM Diversity STEM Ambassador Tufts University September 2023 - May 2025	Created an interactive lesson on the topic of solar sails. Did science outreach in Medford, Somerville, and Boston, MA, high schools. With a co-presenter, regularly led lessons for 20-40 students at a time.
International Club (i-Club) President (<i>highest position held</i>) Tufts University September 2021 - May 2025	Led restructuring of the club's 30-person executive board. Succeeded in creating new membership structure, "family" system, podcast team, and literary society.
Diversity, Equity, Inclusion, and Justice (DEIJ) Committee Undergraduate representative Tufts Physics and Astronomy Department Sept. 2024 - May 2025	Assisted in organizing community-building events in the department.
Society of Physics Students Event coordinator Tufts University Chapter September 2023 - May 2025	Organized events for physics and astronomy outreach to the undergraduate community.
Gender Diversity in Physics (GDIP) Club Executive board member Tufts Physics and Astronomy Department May 2024 - May 2025	Helped organize events aimed at supporting women and gender minorities in physics and astronomy.

Relevant coursework

Astronomy	Physics	Mathematics (beyond calculus)
32: Galactic & Extragalactic Ast.	31: Optics	51: Differential Equations
51: Astrophysics Laboratory	42: Electricity & Magnetism I	65: Bridge to Higher Math
191: Exoplanets & their Orbits	52: Thermal Physics	70: Linear Algebra
191: Radiative Processes in Ast.	61 & 62: Quantum Theory I & II	87: Math Modeling
	64: Advanced Experimental Phys.	135: Real Analysis I
	68: Computational Physics	145: Abstract Algebra I
	103: Teaching for TAs	165 & 166: Probability & Statistics

Honors

Elected Phi Beta Kappa (ΦBK) Tufts University Chapter May 2025
Class of 1947 Victor Prather Prize Tufts University March 2025
Chambliss Astronomy Achievement Student Award 245 th AAS Meeting January 2025
Elected Sigma Pi Sigma ($\Sigma\Pi\Sigma$) Tufts University Chapter April 2023
Leslie and Bruce Male University Scholars Fund Tufts University September 2021