DIANA KHIMEY

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EDUCATION

Harvard University *Dec. 2022*

A.B in Computer Science & Astrophysics. GPA 3.967.

Awards: Detur Prize for Academic Achievement. John Harvard Scholar.

SKILLS

Computer Languages	*Experienced:* Python | *Familiar:* C, R, SQL, Matlab, HTML, CSS
Libraries	astropy, galpy, matplotplib, numpy, pandas, scikit-learn
Software & Tools	Jupyter Notebook, Github, Mathematica, LaTeX
Languages	*Native:* English, Ukranian | *Fluent:* Russian | *Basic:* Spanish

RESEARCH EXPERIENCE

Harvard-Smithsonian | Center for Astrophysics

Prise Fellow, Adv. Dr. Sownak Bose & Dr. Sandro Tacchella *April 2020 -*

· Using dark matter simulations to determine how parameters affect early Universe galaxy formation in different dark matter models. Using limits of upcoming JWST telescope to determine the degeneracy of dark matter models with baryonic physics. Publication listed below.

Research Project, Adv. Dr. Catherine Zucker & Dr. Alyssa Goodman *Dec. 2020 -*

· Studying the kinematics of stars leaving their respective star-forming regions using new datasets on the 3D positions and kinematics of young stars and clouds.

Methods of Observational Astronomy - Course

Final Project, Prof. Douglas Finkbeiner *Jan 2020 - May 2020*

· Used image data collected of an RR Lyrae variable star over the course of several weeks to generate a light curve for the star. Processed images, performed photometry and worked with large amounts of data. See the resulting light curve and the fit to Kepler data here.

PUBLICATIONS

Khimey, D., Bose, S. and Tacchella, S. 2020. *MNRAS*. Submitted. Degeneracies between baryons and dark matter: the challenge of constraining the nature of dark matter with JWST.

WORK EXPERIENCE

Harvard University Mathematics Department

Calculus Course Assistant *Jan. 2020 -*

· Aid in the implementation of an engaging, active, student-driven learning style in the classroom.
· Work with head teaching staff to pin point student weaknesses and guide lessons.
· Hold office hours and grade homework assignments.

Harvard University Math Fluency Initiative

Team Leader and Curriculum Development *June 2019 -*

· Redesigned metacognitive content to allow students to understand how to make their learning more effective by embracing struggle, particularly when studying challenging math.
· Taught students to have meaningful discussion about college-level math problems through weekly group and one-on-one meetings.

American Museum of Natural History

Education Intern *June 2019 - Aug. 2019*

· Educated visitors in Astronomy & Physics after undergoing intensive training in informal science education which involved learning from experts in a variety of specialty fields.

ACTIVITIES

Harvard Observing Project, gathering data using the Harvard Clay Telescope *Nov. 2018 -*
Student Astronomers at Harvard - Radcliffe, access to Loomis-Michael Observatory *Jan. 2019 -*
Kirkland House Intramural Crew, rower for the Kirkland team *Jan. 2020 -*