

Edward Berman

✉ berman.ed@northeastern.edu • 🌐 <https://ebrmn.space/>
👤 EdwardBerman

Education

Northeastern University
Bachelor of Science Mathematics

2021 – present

(Full list of coursework at <https://ebrmn.space/courses/>.)

Selected Work Experience

Research.....

Center for Astrophysics Harvard | Smithsonian. AstroAI: Visiting Scientist *Summer 2025*

- Looking for life on other planets
- **First author on one journal paper in submission to the *Astronomical Journal***
- Contributed to the design of a neural network architecture that predicts chemical absorption spectra with state of the art accuracy
- Used the neural network to predict the chemical composition of exoplanet atmospheres

Khoury College Geometric Learning Lab: Undergraduate Researcher *12/2024 – present*

- Symmetry in Deep Learning
- **First author on one journal paper in submission to the journal *Transactions on Machine Learning Research (TMLR)***
- Proved upper bounds on calibration error for equivariant functions [[invited talk, Harvard](#)]
- Provided machine learning practitioners with a theoretical framework for understanding how equivariance can affect the reliability of a neural networks uncertainty estimate

Northeastern Cosmology Group: Research Co-op *07/2023-12/2023*

- James Webb Space Telescope Near Infrared Camera Fixer-upper. COSMOS Cartographer.
- **First author on three journal papers in top Astrophysics journals (AJ, OjA)**
- **One oral spotlight at NeurIPS ML4PS Workshop** (top 2% accepted papers) [[spotlight talk, NeurIPS ML4PS](#)]
- Produced open source software for characterizing optical defects of the James Webb Space Telescope Near Infrared Camera for **over 200 scientists** with the COSMOS-Web astronomical survey
- **Co-investigator on accepted X-shooter telescope observing proposal**
- **Awarded over \$15,000** in total grant money from Northeastern internal awards
- Contributed to various COSMOS-Web survey lensing research projects as **co-author**, including **the highest resolution dark matter map** ever produced (**in submission to *Nature***), and the discovery of over strong lensing systems, with three papers in submission to the *Monthly Notices of the Royal Astronomical Society (MNRAS)*.

[[Google Scholar](#)]

Teaching.....

Math 4571 Advanced Linear Algebra: Course Assistant

Spring 2024

Math 2331 Linear Algebra: Course Assistant

Fall 2022

Service

Mathematics Engagement and Mentorship Association (Northeastern): Co-President

Society of Physics Students Northeastern Chapter: Events Planner

Last updated April 27, 2025