Elizabeth Teng

Final-year PhD candidate and interdisciplinary data scientist aiming to **transition to a data science or machine learning role** after graduation in 2025. Experienced in **end-to-end Python development** within collaborative open-source software, leading machine learning projects, and communicating technical topics effectively to broad audiences.

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WORK EXPERIENCE

Northwestern University, *Data Science Student Consultant*

(As part of Northwestern IT's Research Computing and Data Services)
- Provide Northwestern researchers with coaching and support for applying methods from **machine learning, data science, computer science, and programming** in their research domain.
- Advise on project design and research techniques.
- Troubleshoot technical problems on projects using Python.
- **Teach workshops** in Python programming and data visualization.

Northwestern University, *Graduate Researcher*

- Contribute to the object-oriented and **open-source** Python codebase of a complex astrophysical simulation using version control with Git.
- Designed, developed, implemented, and deployed an ML emulator for **high-dimensional data** from our simulations. Used PCA from Scikit-learn and fully-connected neural networks from Tensorflow.
- Designed **physics-informed error metrics** to evaluate model performance in a realistic domain-based context. **Visualized data and model accuracy** for communication with astrophysics team and an upcoming publication.
- **Collaborate with other machine learning researchers** from Northwestern's Electrical Engineering department to formulate innovative solutions for emulating **time-series data** outputs from our simulations.

LEADERSHIP AND TEACHING

NU CIERA Machine Learning Club, *Founder and Organizer*

- Organize and often **lead discussions, workshops, and tutorials** about astrophysical applications of ML topics. Meetings are attended weekly by scientists from different subfields and varying levels of ML expertise.

Adler Planetarium, *Science Communicator*

(As part of the Astronomy Conversations program)
- Engage a **broad audience** of museum guests about astronomy and cutting-edge research, including topics from my own work as well as any that guests are interested in.
- Explain technical visualizations of observed and simulated data.
- Clearly and effectively **communicate complex technical concepts** (in astrophysics and machine learning) and results to audiences of specialists, non-specialist experts, students, and members of the public of all ages.

EDUCATION

Northwestern University
Candidate for PhD in Astrophysics
expected 2025

Selected coursework: **deep learning**, **statistical methods**, computational optics, **data-driven research**

Haverford College
BS in Astronomy and Physics
May 2020

Awarded the Louis C. Green Prize, Department of Physics and Astronomy ("*given to the students who go above and beyond in their contributions to the department as well as showing excellence in research*")'

SKILLS

Python, Numpy, Pandas, Scipy, Scikit-learn, Tensorflow/Keras, Pytorch, Matplotlib, Plotly, Jupyter, LaTeX, Unix/Linux, Git, SQL, bash, R

Consulting, Communication, Bayesian statistics, Adobe Photoshop, Adobe Illustrator, Mandarin Chinese (intermediate)