

Sabrina Fowler

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EDUCATION

Doctor of Philosophy , Mathematics, <i>University of Nebraska-Lincoln</i>	expected December 2026
Master of Science , Mathematics, <i>Missouri State University</i>	May 2021
Bachelor of Science , Applied Mathematics, <i>Missouri State University</i>	December 2019

WORK EXPERIENCE

Research Intern, *Georgia Tech Research Institute* May 2024 - present

- Develop novel analytical methods for sponsored research programs as part of a cross-functional team
- Process and analyze large-scale datasets including network traffic logs and biological sequence data
- Design, train, and evaluate deep learning models for anomaly detection and classification

Graduate Teaching Assistant, *University of Nebraska-Lincoln* August 2021 - present

- Independently design and manage all deliverables for an upper-level proofs course, including curriculum, assessments, and evaluation criteria
- Collaborated with department leadership to ensure quality and consistency across multiple course sections of a large-enrollment general education requirement course
- Redesigned course workbook and assessment materials, integrating reference content with problem sets and creating aligned digital exercises

PROJECTS

SAND: Sheaf Analysis of Network Data GTRI

Applied sheaf-theoretic methods to model and analyze network traffic structure, building a mathematical framework for identifying anomalous patterns indicative of cyber threats.

Thesis Research (Ongoing) UNL

Investigate algebraic structures underlying neural networks to develop a mathematical framework for assessing the trustworthiness, robustness, and efficiency of deep learning models.

ERA Mathematics Curriculum Development UNL

Distilled UNL’s intermediate algebra and pre-calculus curricula into focused review tracks for the College of Engineering’s inaugural readiness program for incoming students, and served as instructor for the pre-calculus cohort. Program continues to run annually.

SKILLS

Programming	Python (PyTorch, TensorFlow, scikit-learn, pandas, NumPy), C++, Perl, SQL
Tools	Git, HTML, \LaTeX
Mathematics	Macaulay2, Mathematica, MATLAB