



EDUCATION

Rutgers, The State University of New Jersey
Graduate School – Newark
PhD in Mathematics

Expected Graduation: Spring 2025

The Erdos Institute, Columbus, Ohio
Data Science Certification

May-August 2024

- Project: Topic Recognition on New York Times (NYT) Articles
 - Developed a topic recognition system using 42,000 data points.
 - Created a recommendation system based on topic similarity using LDA and BERT models
 - Analyzed topic correlations, verified keyword accuracy, and evaluated trends.
 - Produced time series data to track the popularity of 400+ emergent topics over the past year.

Deep Learning Certification

- Project: Deoxygenation Indicators and Forecasting
 - Preprocess data of more than 100,000 data points.
 - Find correlations of features with Oxygen by using XGBoost and Time Series XGBoost Models
 - Build a model using the neural network LSTM to indicate oxygen level.

PROFESSIONAL EXPERIENCE

New Atlantis Lab

June – August 2024

- Contributed to developing open-source machine learning models for predicting ecosystem health, focusing on time series analysis of critical indicators like ocean oxygen levels.
- Preprocessed large datasets and optimized algorithms for better predictions.
- Applied time series modeling to forecast ocean oxygen levels.

Graduate Researcher, Rutgers University

Fall 2019 – Current

- Built an efficient algorithm to detect if the two alternating diagrams of a Knot are the same.
- Computed hyperbolic invariants of a family of 4-braids.

Teaching Assistant, Rutgers University

Fall 2019 – Current

- Taught Calculus and College Algebra to over 1,000 students in a total of 5 years.

Supervising Undergraduate Research

Summer - 2024

- Supervised a visiting student from the University of Michigan on Knot Theory and its relation to combinatorics.

Services

- Referee for New York Journal of Mathematics
- Local Co-organizer for Conference at Rutgers University (April 2023)

SKILLS

Programming Languages: Python (Pandas, NumPy, XGBoost, NLP with LDA and BERT, PyTorch)

Data Science / ML: Data Pipeline, Probabilistic models, Time Series Analysis, CNN, RNN

Computer: Working with Cluster, HPC, and parallel processing.

Soft Skills: Strategic thinking, taking initiative, Communication skills, Intellectual curiosity, and Teamwork.

Activities

Organizer: 3MT Competition at OIST

Conférence Participation: Attended multiple Conferences in the USA, Canada, Japan, and France.