# Eugenia (Yujia) Cao

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## Education

**Northwestern University** Evanston, IL
*Bachelor of Science in Industrial Engineering and Computer Science* *Expected June 2026*

- GPA: 3.9/4.0, Major GPA: 4.0/4.0, Dean's List(2/2)
- Coursework: Linear Algebra, Probability, Statistics, Data Processing, Data Structures and Algorithms

## Experience

**Undergraduate Research Assistant** March 2023 – Present
*Technological Innovations for Inclusive Learning and Teaching (Tiilt) Lab* *Evanston, IL*

- Implement a real-time discussion summarization feature to enhance effective interpersonal communication
- Combine extractive and abstractive NLP models to achieve optimal efficiency
- Contribute to the development and design of the user interface for the online platform
- Assist in conducting model evaluation and comparison for improved performance

**Web Developer** January 2023 – June 2023
*The Daily Northwestern* *Evanston, IL*

- Create app pages and interactives to enhance storytelling and feature content, reached over 30,000 readers
- Implement collaborative newsroom documentation site to improve internal management
- Manage website maintenance, ensuring regular updates and conducting technical trainings for staff members
- Contribute to publication development as the tech lead and serve as a member of the editorial board

**Junior Developer and Quant Researcher** October 2022 – Present
*Northwestern Financial Technologies Club* *Evanston, IL*

- Apply advanced mathematical modeling techniques to develop algorithms for NUFT quant simulation
- Design and implement a reliable data parser to process raw financial data for back-end testers
- Work closely with senior developers to analyze resulting backtests and execution logs to improve future algorithms
- Participate in supplemental lectures on topics ranging from cloud computing to finding viable signals

## Projects

**Leveraging LLMs for Enhanced STEM Education** | *Python, Pandas, LangChain* April 2023 – Present

- Conduct under the Center for Connected Learning and Computer Modeling at Northwestern University
- Collaborate with CT-STEM (online course platform) to perform qualitative analysis using Large Language Models
- Quantitatively analyze and visualize the inter-agreement rate with human assessors, which currently exceeds 75%
- Currently preparing a work-in-progress journal publication in collaboration with a postdoc researcher

**Enhanced Image Classification and Detection** | *Python, Tensorflow, Keras* February 2020 – June 2021

- Trained convolutional neural networks on large-scale datasets for image classification tasks
- Successfully developed a face-mask detection system with an overall accuracy exceeding 95%
- Developed a prototype for peer review and showcased it at the student activity expo

## Technical Skills

**Programming Languages**: Python, R, SQL, JavaScript, HTML/CSS, MatLab, Racket, LaTeX
**Technologies**: Pandas, NumPy, React, WordPress, Matplotlib
**Developer Tools**: Git, Juypter, Google Cloud Platform, VS Code, PyCharm
**Interests**: Theatre Production Design, Photography, Figure Skating

## Honors and Awards

**Finalist** - International Mathematical Modeling Challenge (2021)
**Regional Top 100 Individual** - American Regional Mathematics League (2020, 2021)
**National Bronze** - International Olympiad of Linguistics (2020)