Andrew(Hyoungjoon) Yoo

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Education

Columbia University   New York, NY
Mathematics, Computer Science. Bachelor of Arts. GPA 3.7   2022-2026
- Relevant Coursework: Probability Theory, Advanced Algorithms, Machine Learning, Analysis of Algorithms, Unsupervised Learning, Computational Learning Theory, Artificial Intelligence, Modern Analysis, Modern Algebra, Differential Manifolds, ODE, PDE
- Dean's List, Putnam Top 500

Research Experience

Columbia University Math Department   New York, NY
Math Modeling Research   May 2024 – August 2024
- Researched efficiency optimization of NYC CitiBike network by designing rebalancing schemes to reduce the number of low service stations by 80 percent.
- Applied mathematical modeling and data analysis techniques to real-world research challenges, including dynamical systems, stochastic modeling, simulation optimization, and LP/MIP in python.
- Developed skills in project design, simulation, literature review, and scientific writing.

Directed Reading Program   September 2023 – May 2024
- Researched topics in Algorithms and Measure Theory.
- Solved graduate-level problems collaborating with Math PhD students and presented my findings to peers at the conclusion of each semester.

Markov Mixing Time Reading Group   May 2025 – Present
- Participated in a group on Markov Chains and Mixing Times; answered weekly questions and open problems.

Work and Leadership Experience

Northcross Group   Portland, Maine
Data Science Analyst Intern   June 2025 – August 2025
- Built a legal document-processing pipeline that semantically chunked and parsed contracts line-by-line using OCR and transformer-based LLMs, auto-tagging compliance items and boosting review throughput by 400%.
- Delivered a transaction "lookback" tool for banks that flagged posting-order timing errors before settlement and prevented overdraft-fee events via automated checks/alerts.

Putnam Seminar
Seminar Lead   September 2024 – Present
- Led weekly meetings for the Columbia Undergraduate Putnam Seminar preparing 30+ students for the Putnam exam.

Columbia Journal of Undergraduate Mathematics
Content Editor   October 2023 – Present
- Edited papers in topics in geometry, analysis, and topology for a 100+ page undergraduate math journal with readership of more than 1000.
- Collaborated and communicated with fellow editors to discuss accuracy and accessibility of papers.

Columbia University Computer Science Department
Teaching Assistant   September 2025 – Present
- Worked as a teaching assistant for the class Analysis of Algorithms.

Columbia Formula SAE Racing   September 2023 – May 2025
- Designed the carbon fiber suspension in the 2024-2025 Columbia FSAE car using Solidworks.

Reading Team Math   October 2023 – Present
- Volunteered in weekly tutoring of elementary school students through an after-school program.

Skills & Interests

Technical: Python(pandas, NumPy, scikit-learn), Java, MatLab, LaTeX, Solidworks, Git; Methods: regression, time-series, optimization
Language: English - Native, Korean - Fluent