

KEVIN WU

Phone: (847)-776-1326
Email: kwu381@gatech.edu
Website: kevinwoots.github.io

1155 Reynolds Sq Ln.
Atlanta, GA 30307

EDUCATION

- PhD** **Georgia Institute of Technology** (Atlanta, GA) Expected June 2027
Operations Research
GPA: 3.71/4.00
- BS** **Northwestern University** (Evanston, IL) June 2022
Magna Cum Laude
Majors: Computer Science, Mathematics, Integrated Science Program
GPA: 3.95/4.00, Tau Beta Pi
Integrated Science Program: a highly selective honors curriculum of science and math

PUBLICATIONS

- K. Wu**, M. Tanneau, and P. Van Hentenryck, “Strong mixed-integer formulations for transmission expansion planning with FACTS devices,” **Electric Power Systems Research**, vol. 235, 2024, Art. no. 110695.
- K. Wu**, R. Haider, and P. Van Hentenryck, “High-resolution PTDF-based planning of storage and transmission under high renewables,” **Electric Power Systems Research**, vol. 262, 2027, Art. no. 113665.

PRESENTATIONS

- “Strong mixed-integer formulations for transmission expansion planning with FACTS devices,” **Power Systems Computation Conference**, Paris-Saclay, France, June 2024.
- “High-resolution PTDF-based planning of storage and transmission under high renewables,” **INFORMS Annual Meeting**, Atlanta, USA, October 2025.
- “High-resolution PTDF-based planning of storage and transmission under high renewables,” **Power Systems Computation Conference**, Limassol, Cyprus, June 2026.

RESEARCH EXPERIENCE

- AI4OPT, Georgia Institute of Technology** Aug. 2022 – Present
Artificial Intelligence Institute for Advances in Optimization
Advisor: Prof. Pascal Van Hentenryck

- Developing large-scale formulations, models, and algorithms for long-term transmission expansion planning in high-renewable grids
- Analyzing the impact of emerging technologies, such as dynamic impedance devices and energy storage, on reducing load-shed and curtailment of renewable energy

GS CIR, Lawrence Livermore National Laboratory May. 2025 – Present
Global Security: Cyber and Infrastructure Resilience Program
Mentor: Dr. Tomás Valencia Zuluaga (Program Lead: Dr. Jean-Paul Watson)

- Developing scalable and data-informed methodologies for co-optimization of generation, transmission, and storage capacity expansion planning
- Implementing algorithmic decomposition techniques (e.g. Benders, Progressive Hedging) to support capacity expansion planning using the open-source MPI-SPPY framework and an in-development internal CEP model
- *Continuing part-time during the academic year to support ongoing development*

Tyo Group, Northwestern University Jan. 2020 – Jun. 2022
Department of Chemical and Biological Engineering
Advisor: Prof. Keith Tyo

- Performing protein purification and expression and running pools of multiplexed reactions in order to study protein-protein interaction and protein promiscuity
- Coding data analysis tools and visualizations using Python
- Developing a machine learning model to analyze results and predict future reactions

Wang Cryptography Group, Northwestern University Mar. 2021 – Mar. 2022
Department of Computer Science
Advisor: Prof. Xiao Wang

- Studying cryptographic schemes that resist quantum computing attacks
- Researching techniques including short integer solution, learning with errors, and lattice-based cryptography

Research in Science & Engineering, Boston University Jun. 2017 – Jul. 2017
RISE Program: Department of Biology
Advisor: Dr. Brent Little

- Conducting self-designed experiments with *E. Coli* and presenting findings
- Performing genetic lab procedures such as DNA extraction, PCR, and gel electrophoresis

AWARDS & ACHIEVEMENTS

Anderson-Interface Research Award Dec. 2024
Georgia Institute of Technology
Fellowship for research excellence in the area of energy and sustainable systems

Stewart Topper Fellowship Aug. 2022 - May 2023
Georgia Institute of Technology
Awarded to select students for outstanding academic achievement and potential

ISyE Fellowship and Graduate Teaching Assistantship Aug. 2022 - May 2023
Georgia Institute of Technology, Industrial and Systems Engineering
Awarded to support research exploration and career development during the first year of Ph.D. program

Northwestern University's Dean List Sep. 2018 - Jun. 2021
(Honors: 4 academic quarters, High Honors: 4 academic quarters)
Award for academic excellence

Tau Beta Pi Junior Inductee Oct. 2020
Northwestern University
Engineering Honors Society: top ~12.5% of Northwestern juniors

AT&T Intern Innovation Challenge Jul. 2020
Best Overall, Most Impactful and Most Innovative Awards
Design competition among ~25 intern teams

DTC Best Communication Award Mar. 2019
Northwestern University, Design Thinking and Communication
Design project competition among ~20 teams

USA Math Olympiad (USAMO) Qualifier 2017

LEADERSHIP & SERVICE

ISyE Graduate Student Advisory Council Aug. 2024 – Present
Georgia Institute of Technology, Industrial and Systems Engineering

- Serving as liaison between graduate students and ISyE administration
- Organizing student events, including PhD socials, town halls, and visit days

TEACHING EXPERIENCE

Graduate Student Instructor Jan. 2025 – May. 2025
Georgia Institute of Technology, Industrial and Systems Engineering
ISyE 3133 Engineering Optimization

- Led a mandatory studio section (~15 students), facilitating problem-solving sessions for linear and discrete optimization
- Designing and delivering guided problem sets to support lecture material, holding office hours, grading and proctoring exams

Teaching Assistant, Seth Bonder Camp Jun. 2024 – Jul. 2024
Georgia Institute of Technology
Summer Program: Computational and Data Science

- Working with students (~40 high-school students) through program coursework, teaching Python and introductory deep learning, grading

CASE Graduate Tutor, Georgia Institute of Technology Aug. 2022 – May 2023
Center for Academics, Success, and Equity

- Providing walk-in tutoring for undergraduate Industrial Engineering students, specializing in Probability with Applications

Teaching Assistant, Northwestern University Sep. 2021 – Jun. 2022
Department of Mathematics
Course: Single Variable Calculus

- Leading discussion sections (~20 undergraduate students), holding weekly office hours, grading homework, grading and proctoring exams

Mathematics Study Group Leader, Northwestern University Sep. 2019 – Jun. 2022
Academic Support and Learning Advancement (ASLA)

- Leading supplementary math study groups (~10 undergraduate students), lecturing, tutoring, and assigning practice problems

Counselor, University of Chicago Jun. 2018 – Jul. 2018
Young Scholars Program (YSP)

- Leading groups of students (~5 middle-school students), teaching number theory and introductory Java

WORK EXPERIENCE

ISO New England May 2023 – Aug. 2023
Advanced Technology Intern

- Independent System Operator – New England
- Mathematically proving the physical interpretation of a new marginal-based accreditation metric developed for resource capacity accreditation of energy storage in single-storage power systems.
- Creating a Python package to simulate and assess multiple-storage performance.

Amazon Jun. 2021 – Sep. 2021, May 2022 – Aug. 2022
Software Engineer Intern

- Developing a cross-team library that supports region and time-based rollouts for A/B testing and risk mitigation for new features of the trailer routing algorithm
- Creating a Redshift data pipeline and QuickSight dashboard to display network performance, supporting 4 drill-down levels, 3 time aggregates, and granular queries
- Holding design reviews, creating pipeline infrastructure, and writing business logic
- Conducting end-to-end testing and demoing to my team's larger organization

AT&T Jun. 2020 – Aug. 2020
Software Engineer Intern

- Developing in an Agile scrum team and completing user stories to support modernization of infrastructure towards microservices

- Collaborating with peers in the Intern Innovation Challenge to design a product that supports online teaching; competing among 25 teams to win Best Overall

LANGUAGES & SKILLS

Languages: English (native), Mandarin Chinese (advanced speaking and listening, intermediate reading and writing)

Programming: Java, Python (NumPy, Pandas), C++, JavaScript (NodeJS, Angular), SQL, Julia

Last modified: July 2, 2026