KEVIN WU

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EDUCATION

PhD **Georgia Institute of Technology** (Atlanta, GA) Expected June 2026
Operations Research
GPA: 3.56/4.00

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.

PRESENTATIONS

K. Wu, M. Tanneau, and P. Van Hentenryck, "Strong mixed-integer formulations for transmission expansion planning with FACTS devices," Presented at **Power Systems Computation Conference**, Paris-Saclay, France, June 2024.

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: 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) 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, valued at $1,000

Stewart Topper Fellowship Aug. 2022 - May 2023
Georgia Institute of Technology
Awarded to select students for outstanding academic achievement and potential, valued at $5,000

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, providing a $2,700 monthly stipend

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

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: Aug. 7, 2025